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405 ALIVE

RECALLING THE GOLDEN YEARS OF BLACK & WHITE TELEVISION

Issue 24, Turn of the Year 1994/95

Editor: Andrew Emmerson, G8PTH



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THOUGHTS OF THE MONTH

Designers try to make things foolproof but they always fail — because fools are so ingenious.

As the engineer said when the new bridge collapsed, 'Damn that decimal point.'

SUBSCRIPTIONS!

At the time of writing (2nd January), 58 pages of issue 25 were already prepared, so the next number should be out in February. Really! So we'd hate you to miss it.

If there's a red message here this means your subscription has expired! We hope you will renew and ...please do it now.

It's so easy to forget if you decide to leave it 'to the end of the month', in fact we'll happily accept a post-dated cheque (up to a month forward). You can also pay by credit card (Access, MasterCard, Visa or Eurocard.)

We do not have time to write chase-up letters, so if you forget to renew you'll probably suffer horrible withdrawal symptoms. Help yourself — and us — by renewing on time (or, if you don't intend to renew, by sending us a note saying what was wrong with the magazine!).

Rates for 1995 have not increased. Send a cheque or postal order for £15 (inland), Eurocheque for £17 (abroad) *made out to Andrew Emmerson* or send \$25 cash (world air mail), which will pay for a year's subscription. Pay by credit card if you like but the payment has to go through another account and there is a 5 per cent surcharge for credit card transactions to compensate for the bank's extra charge.

All subscriptions cover the four issues of the current volume (rather than for 12 months from when you start) so as to simplify book-keeping and charging.

Finally, *please don't make out your cheque to '405 Alive'*; there is no bank account in that name and the cost of setting one up would only force up subscriptions. The magazine is not a business, more a labour of love, and the price you pay just covers direct costs!

FROM THE EDITOR

Sorry we're late again (so what's new?). Will things get any better during 1995? Will you win the National Lottery? Will pigs learn to fly?

This magazine (and issue 23) should arrive very early in the New Year, at a time when the festivities are just memories (good ones, I hope). With a bit of luck not one but two magazines, full of solid reading, should make a pleasant change.

Anyway, enjoy a bumper crop of articles and think some nice thoughts about the writers who kindly took time to share their ideas, reminiscences, research and wisdom with all of us. After 24 issues (yes 24 already, it seems like a lifetime!), I still marvel at the friendly goodwill we have in our circle and long may it continue.

Finally a word of thanks to you the readers for your support during 1994. Without it there would be no magazine in your hands now. But to keep up the good work in 1995 we need your renewed subscription, and the panel on the left indicates if money is due. For one reason or another we do lose a few readers each year but the year-on-year trend is always upwards, thank goodness. Please do your bit by renewing on time and remember, I'd rather have a post-dated cheque than no indication of whether you are staying with us.

All best wishes for 1995,

Andrew Emmerson

(Editor and Publisher).

**LAST ISSUE
unless you renew**

405 ALIVE

**Issue 24,
Year End 1994**

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LETTERS, WE GET LETTERS

From John P. Hamilton, London:

As I know you don't have much to do I am sending you some light reading (*John's article is included later in this issue*). I forgot to mention how pleased I was to see from the Spring edition that Les Roworth was alive and well and contributing. I hope he does some more. He was a very good engineer.

From Les Gibson G3RCX, Leigh-on-Sea:

In a recent copy of *Radio Bygones* magazine I had an article published regarding my pre-war service as Wireless Officer in the Merchant Navy, and in the same issue was an article by Larry Coalston on the early days of BBC Television Service Operations and Maintenance at 'Ally-Pally', (previously published in *405 Alive*).

This was most interesting as I too was at Ally-Pally from May 1949 until I left the BBC in April 1955 to join an ITV company, Associated-Rediffusion Ltd., with whom I stayed until Sept 1956 (redundancy). I have written to Larry and in his reply he included your name and address, although I was well aware of it and yourself through amateur-radio activities, my call-sign being G3RCX, and we have been in QSO in the past.

As I joined the BBC Engineering Division in June 1943 as Engineer Grade -D to Tatsfield Monitoring and Frequency-Measuring Station, Surrey, then Ally-Pally in May 1949 for studio and control-room duties, including Central Control-room, sound and vision, and Lines Termination Room, now as a TA Grade D after the BBC's regarding system, plus an occasional duty as fourth cameraman on the original Emitron cameras, I feel I would be interested in re-kindling '405' days. I was also at Lime Grove Control and Presentation Suite from 1953-55 until I transferred to Shepherds Bush Theatre vision control crew for about three months in 1955 as TA Grade D until I left in April '55 for ITV (more about that if required).

Please let me have details at your leisure, and I enclose cheque for £2.50 for sample copy of the mag., and more details please. Many thanks.

From John Koreny, Magyar Television Technical Collection, Budapest:

Please estimate how many Pye (Mk III or other) b/w O.B. vans might exist in Europe or in this world. Now we are busy restoring one of our vans, issued in 1957, and a special television programme has been made about the restoration.

The answer is very few (unless someone tells us otherwise)! I am delighted to hear that you have one and are restoring it. I should love to see a videotape of the programme you make. In fact it would be good if you could send any photographs when your work is complete.

The situation in Britain is that our national Museum of Film, Photography and Television has one of these vehicles. I believe the van dates from 1959 but it has no internal fittings, having been converted into a general-purpose transport vehicle during its life. The museum also has a number of Mk III cameras and other equipment of the same era, so it would be possible to make a re-creation if the time and money becomes available in future. Apart from that, there is another vehicle of the same type dating from

1955 or 1956; its owner is unknown and it is in very poor condition, virtually a wreck. It would cost thousands of pounds to restore it, sadly. [Editor].

From Dave Probert, Wednesbury:

I note another sell-through tape of old commercials has turned up at W.H. Smiths. It's called 'Monkey Business' and features a potted history [*is that meant to be a pun?*] of P.G. Tips tea advertisements, presented fairly well by Tony Slattery.

I saw this too and bought it. It's very enjoyable in fact, although some of the soundtracks are 'over-ridden' by the presenter's commentary. Pity he couldn't have waited a few seconds longer. There's also a tape called 'Hamlet The Video' of cigar commercials; this also raises a merry chuckle. [Editor].

From Wilfried Meier, Kevelaer, Germany:

At last I have the opportunity to write another couple of lines. I have finally found myself a pre-war TV. It is an Ekco TA201 with console and original radio. The set is like new and works faultlessly.

I also have some sets in for restoration. A Cossor console set 1210, a Cossor table set model 54 and an HMV 901. The sets are all in good condition, with good picture tubes. All the same, it will mean a lot of work to get them going again, although it is always a pleasure to see these wonderful sets working once more. Recently I have acquired another Pye VT2, a nice bakelite set. In due course I'll send a report on how the restoration work is going.

From Michael Bennett-Levy, Edinburgh:

I loved your radio interview last week on Radio 4. You have the unique ability to make collecting and watching old television sets sound absolutely normal.

I have not lost interest in televisions but I am once again broadening my horizons into all areas of early technology I have just bought my own shop in Edinburgh, a dream I have had for 17 years since I last had a shop of my own in London. This is called 'Early Technology' and is at 84 West Bow, Edinburgh EH1 2HH, telephone 0131-226 1132. Shop hours are when I turn up or by appointment!

I didn't hear the programme myself but I have been promised a tape of it (hint to a certain party!). In truth I owe any success in how it came out to Louis Robinson, who coaxed the right questions out of me. And surprise, surprise - Louis is also a 405 Alive! Now there's a funny thing... [Editor].

● TELEVISION NEWSREEL ▶

BOB'S FULL HOUSE

The BFI's 'Missing Believed Wiped' initiative celebrated its first anniversary at the NFT during October. One of the scheme's patrons, Bob Monkhouse delighted the sell-out audience not only with his wit but also with his great knowledge of TV history. Bob is a keen collector of film and TV material himself and we hope to work with him in the future as we have with other collectors in our ongoing search for the many missing gems from British broadcasting history.

The restored episodes of *Steptoe and Son*, which were shown on the BBC and are now available on video, have so far been perhaps the initiative's most visible success. That said, the quality of the programmes restored and reclaimed for screening this year was just as high, with classic clips from *Till Death Us Do Part* and *Hancock* alongside Terry-Thomas in a *Comedy Playhouse*, an early episode of the pre-Python *At Last the 1948 Show*, and an early appearance from Woody Allen in the 1960s variety show *Hippodrome*. A *Dave Cash Radio Programme* was a treat for music fans, while sci-fi was represented by an appearance from our favourite timelord, Doctor Who.

If anyone knows of any pre-1975 British television material which may be 'Missing Believed Wiped', they should contact Steve Bryant at the NFTVA (0171-255 1444). *Veronica Taylor, TV Unit, and Steve Bryant, NFTVA.*

[Extracted from *BFI Membership News*, November 1994]

RARE CRYSTAL PALACE PHOTOS

Ray Herbert has rung to say that the latest issue of the *Crystal Palace Magazine* has a major feature devoted to television and radio activities at the Palace – the BBC television mast, Baird's studios and the outside broadcast on the night of the great fire. There are 29 photos alone of television subjects, many of which have never been published before. Copies are available, price £2.25 plus 85p postage, from the Crystal Palace Museum, Anerley Hill, London, SE19 2BA. Make sure you ask for issue no. 6 and note that stocks are strictly limited. Make cheques payable to the Crystal Palace Foundation, please.

CLOCKING TELEVISION HISTORY

The Museum of Photography, Film and Television at Bradford is currently displaying one of the pair of pendulum master clocks that kept BBC Television Centre on time for about 30 years, together with one of the massive 12-dial time monitoring panels. The usual method of adjusting these industrial clocks to keep correct time is by placing small weights on the pendulum, like the famous old pennies used to regulate Big Ben.

The TVC clocks were special in that this regulating function was done automatically by a small mechanism, driven by the Greenwich Time Signal pips, which dropped a small chained weight onto a pendulum tray every 15 minutes and snatched it off if the clock was correct.

This interesting mechanism is unseen behind the clock dial, so the Museum is making a replica which will be shown operating alongside the clock.

[Submitted by Geoffrey Goodship, Retired Staff, to *Ariel*, the BBC staff newspaper.]

**Bob Smallbone introduces a new series which he calls
INSIDE INFORMATION:
No. 1, Fading Flowers**

Dead, intermittent or microphonic AF117 germanium transistors are well known amongst those of us who repair radios of the 1960s period. These are of the same mechanical construction as types AF114, AF115, AF116, OC170 and OC171, which are found in televisions.

The cause of death or fault mechanism is rather interesting. The encapsulation contains silicon grease (*I thought these were germanium transistors, Bob! Sorry, silly joke [Editor]*) and an air space. From the inside wall of the can in the air space grow microscopic hairs of an unidentified medium which is tough, springy and electrically conductive. These hairs are 0.008mm across. After some 25 to 30 years these conductive hairs reach the internal lead construction, giving the forementioned fault symptoms. It is not clear if the air space is part of the design intent or is in fact a process error. Perhaps a knowledgeable Mullard employee will read this article and enlighten us.

Remedies can be effected but I fear the only permanent repair may be replacement with another type with similar electrical characteristics. This action goes against the grain for those of us who value originality. There are possibilities for a near-original repair, the easiest being to snip the screen lead, thus isolating the can, but this may cause instability and presumably it is only a matter of time before a second internal lead becomes shorted to the can with the same symptoms.

The faulty device can, of course, be replaced with a stock part of the same type but this remedy will be short-lived because the conductive hairs will already be growing within this 'new' item. For those readers who are more adventurous, they can take action of an experimental nature. There are two courses that come to mind and which I have yet to evaluate. One is to blow the short away electrically by discharging a capacitor of 50 microfarads charged to, say, 50 volts connected between the can and the offending lead. The other is to unsolder the can seal, withdraw the offending lead, clean the can interior, refill with silicon grease and reseal.

Diagram on page 30.

Editor's patronising note to younger readers:

Personal computers and spelling checkers that turn words into something other than the writer intended are a relatively modern invention. They certainly weren't around back in the swinging sixties (or to be more precise, the flower power era) but nonetheless there were a lot of 'clever' people who were convinced that the word germanium must be a mistake. Accordingly they turned the word into geranium and transistors of this technology became known as 'flower power', even if the joke was lost on most people. "If you're going to San Francisco, wear a flower in your hair...."

RAIDERS OF THE LOST ARCHIVES 2 OR KALEIDOSCOPE RIDES AGAIN!

Dave Probert reviews Kaleidoscope's best yet event

Issue 23 contained Kaleidoscope's own news-sheet of their August 94 presentation but I thought readers might be interested in my own impressions. I went with my wife Jill and we both enjoyed it very much.

There were many more people there this year and it seemed to go down very well, especially the talks by the guests. It was also nice to hear Steve Bryant saying many thanks to the 405 Group for their help with programmes and technical know-how. Also Steve Perry (Kaleidoscope organiser) said several people attended after seeing the 'do' mentioned in *405 Alive* (hurray!).

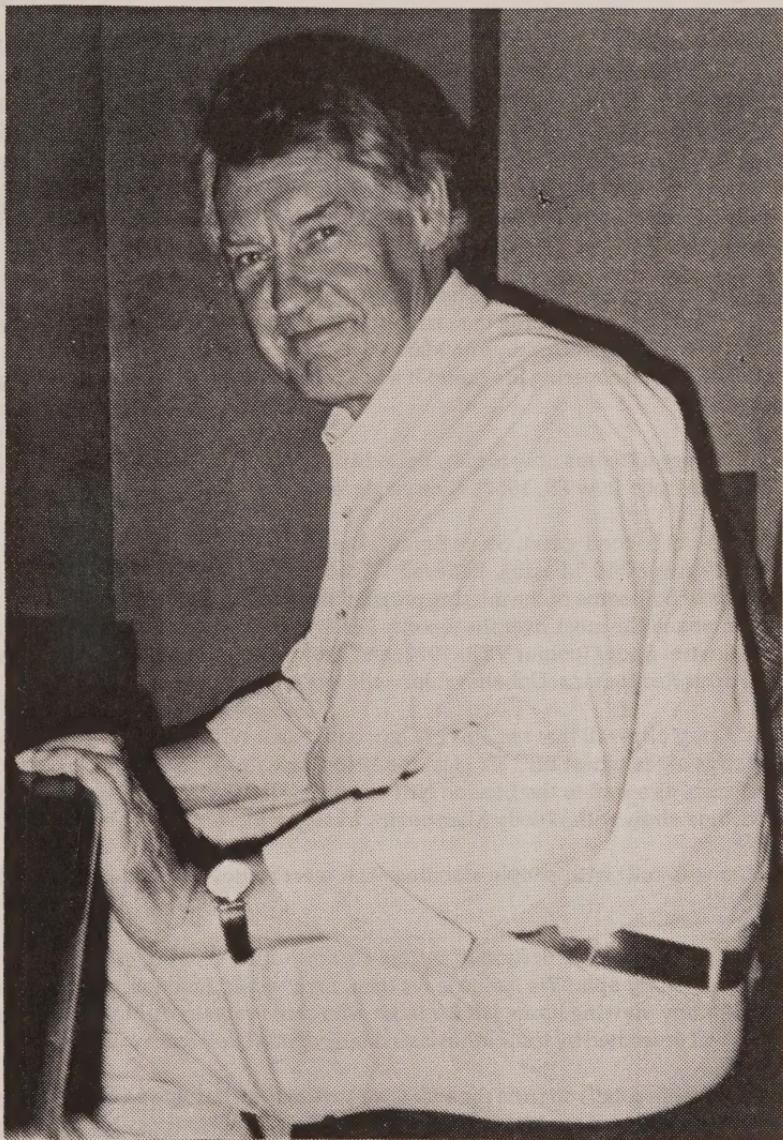
With quite a few more viewers attending this year, we were treated to many delights rescued from the archives. As usual, we were compered for the day by Dave Rogers, author and TV oracle. All proceeds from the convention and its magazine were donated to charity, this year's beneficiary being the Royal National Lifeboat Institution.

From Scottish Television's 'Charles Endell Esq.' (on colour VTR, from 1980) to the classic Thames series 'Public Eye' (b/w VTR, 1971) with Alfred Burke as Frank Marker, it was quite a nice start to our viewing. Lunch time saw a showing of the mostly forgotten soap 'Weaver's Green', episode 1, from Anglia TV (1966) taken off its original quad two-inch tape (405 lines, b/w) and converted up to 625 lines. Very good picture quality too and still better than some of today's soaps (all 30 episodes exist!).

A short collection of clips from ATV's last few days, 'ATV Today' and 'Crossroads', brought a few laughs and so to our first guest, director and producer Jonathan Alwyn. Interviewed by Michael Haslett, he told of his life in television plus the shows he worked on. We then saw a complete episode of ABC TV's 'Mystery and Imagination', 'The Fall of the House of Usher' from 1966 (b/w TR). This had Susannah York, Denholm Elliott and David Buck in the cast and still looked good now, with a good script and acting to match.

Following the screening we had a Q&A session and a chance to find out more information from Mr Alwyn about this episode's quite complex set, at least by these days' standards. We also heard his worries whether the show would be completed in its two days' studio time allotted. He recalled 'Doomwatch' and other programmes, all very informative and a nice warm personality, Brill!

Jill and I then decided to have a break for a snack, as 'square eye' was setting in, also to have a chat with a few others there. At least one I know makes his annual 'pilgrimage' to Stourbridge and Kaleidoscope just for the fantastic chocolate cake! It is all credit to



Jonathan Alwyn (*photo by Dave Probert*)

the refreshments team. We then went outside to stretch our legs before back to more viewing.

The main room had a large-screen TV and the second viewing room a standard television. Another set in the bar/refreshment area made sure you had a choice of programmes, so it was a case of choosing what to miss! We decided to try the smaller room, for the memorable documentary spoof 'Alternative 3' (from Anglia, 1977, colour). It was presented by Tim Brinton and very convincing in its style, with many of the methods shown now used as standard practice (for better or for worse). It features a fictional documentary series that he says was 'shelved' in production for a while, when all leads dried up.

Then clues turn up to find the answers to mysterious disappearances and deaths, and so on... to its conclusion of the unscrambling of a reel of videotape, which has been encoded, of the first joint landing on Mars o by the Americans and the Russians in the early 1960s and discovering life there! It was originally intended for transmission on April 1st.

A quick change of rooms now to view episode one of ABC-TV's 'The Lion, The Witch and The Wardrobe' (b/w TR, 1967). Nice magic for us older kids.

Then on to our second guest, Steve Bryant, keeper of television at the BFI, with his now highly respected 'Missing, Believed Wiped' presentation. With plenty of clips and stories of how some of the missing programmes turn up, including one found in a loft, he screened the most 'over the top' clip I've ever seen. It was from 'The Black and White Minstrel Show' (colour VTR, 1972) and showed the minstrels doing a number dressed up as Red Indians. Unbelievable (well I like' em)!

A 'Dads' Army' clip – all that remains of 'Christmas Night With The Stars 1969' (colour VTR) – clips of the oldest BBC TV play, the 1948 Show, 'Likely Lads' and so on and so on. To finish, as a trail to the London NFT screening of 'Missing 2', a clip of the 1966 'Hippodrome' show with Woody Allen boxing a kangaroo!

The room was full, with people standing. The presentation was loudly applauded. Again, brill.

Phew... 'square eye' was definitely setting in now, after viewing on and off from 10.30am till nearly 8pm! We had to leave then, for a 'works' function, although there were still many viewing hours left for those who could remain. All told, a very nice day out, well presented by true enthusiasts. Many thanks! Roll on next year!!!

As I write this, five days on from the event, we have nearly recovered from 'square eye' but it was worth it and are looking forward to next year's event (possibly in October, watch this space).

The photo is of Jonathan Alwyn who related several fascinating anecdotes about the 'Mystery and Imagination' programme and I honestly thought this roll of photos was going to be a write-off since on the day of the 'do', the battery compartment fell off the

camera and had to be held on with masking tape. Then the flash unit conked out too after two or three photos, so I wasn't very optimistic and was most surprised with the result.

By the way, the Kaleidoscope group have issued their latest book, 'British Television Drama Episode Guide 1950-1994 Including Archive Holdings'. It's big, about 450 pages of A4, plastic spiral bound and about 2½lb in weight! It's in their usual 'plain basics' format, listing SERIES - PRODUCTION COMPANY - TX DATES - EPISODE Nos. OR TITLES - IF IT IS KNOWN TO EXIST AND IN WHICH FORMAT - a most useful book for collectors. It's expensive at £20 but that includes a donation to charity. Postage costs an extra £5. A similar (but shorter) guide to TELEFANTASY TRANSMISSION DATES & ARCHIVE HOLDINGS is available at £6 post-paid. Cheques payable to Kaleidoscope. The address is Kaleidoscope, 93 Old Park Road, Dudley, West Midlands, DY1 3NE. Please enclose a stamped addressed envelope with any enquiries.

b/w - black and white
TR - telerecording
VTR - video tape recording

LOOK NORTH

David Norris relives a blast from the past...

Michael Stott's descriptions about the primitive arrangements at TTTV somehow struck a bell with me that similar things used to happen at BBC North West (Manchester).

Broadcasting house in Piccadilly was closed down in 1981, but before that it hosted regional television and Radio Manchester, as well as producing many network radio programmes (including the first Children's Hour with Violet Carson). The ground floor consisted of a bank and reception, so all the studios were on the first and second floors.

As a television cameraman I used to get posted to Studio N for the regional afternoon and evening news. Before Studio N came into being (and the bank below it) the rooms used to be one big concert hall. This was eventually cut into halves, both ways. So Studio N was approximately one quarter of the original hall, with the studio floor approximately 20ft in the air of the old hall! Studio N wasn't very large by modern standards – only about 30ft square, and not much room to do anything properly. Even so, we did used to do musical numbers, cookery demonstrations, *et al*, as well as a week of *Nationwide*, but it was all rather cramped, with everyone falling over each other with sets being taken in and out. Also the lights were fairly low and tended to burn the back of your neck....

I remember that each day's *Nationwide* broadcast started with a wide-angle from one corner and with the 50deg. lenses of the 2001s there had to be a clean floor i.e. no cables, monitors, unwanted people, or more importantly, unwanted cameras! This created quite a problem... and the lights were kept out by swinging a board into top of shot with something like 'Nationwide from Manchester' on.

When I started going there (mid-70s) Studio N had just two 2001s but eventually got up to a hefty four! However, with just two cameras we used to do all sorts of things – and live – but what the director had to remember was that one of the cameras had to be able to get back to one of the presenters (Stuart Hall or John Mundy) at the end of the item. One night the director got us into a knot and my camera ended up with being in the way of the one to be released. So, because I was cut up, and the interviewer had finished the interview, and the other camera could just not get to the presenters, there was nothing for it but to do a nice smooth track back, pan round the studio and on to Stuart Hall. Perhaps that was one reason why they got more cameras!

The afternoon news always caused some interest as there was always an interlude of about three or four minutes between the last network programme when the regions opted-out, and the regional news. For this interlude, music was chosen from a type-written list containing various pieces of interlude music that were suitable – about fifteen items. This list was just taped to the wall for all to read, and as there was no real organisation of which one to play, members of staff took it in turns to choose their favourite!

There were numerous witty comments when it was the female P.A.'s turn, as she always seemed to choose pieces with a *double-entendre* name. Funnily enough though, just one in particular seemed to be everyone's favourite, so that was played more often than not – perhaps that one became known with viewers as BBC North West interlude music... who knows?

Besides the 2001s there was a lonely EMI vidicon camera with zoom lens, which was just used for captions. I can't remember the model number of it, but it was green and fairly square – about 10" by 8" by 8". Originally *Look North* used a couple of these cameras as the originating output, but I'm sure that everyone knows that 'vidicon' and 'lag' are synonymous. The output of this now lonely camera was colourised on the mixer, and mixed in to filmed interviews etc.

However, it didn't last long after I arrived as an Aston Text Generator was installed. This had a full three fonts, sixteen memories and wasn't too easy to use! There were quite a number of characters who worked in regional television. There was a Floor Manager called Peter Barlow who used to be involved with *Look North West* on many nights. It always irritated Peter how people with news items, late scripts, etc. would just walk into the studio without permission. For the uninitiated I should say that it's part of the profession to ask the permission of the Floor Manager to enter 'his' studio and when a programme was live this would (should!) be done over talkback.

However, more often than not this was done infrequently on *Look North* so Peter decided to bring this to a head by placing a large metal tea tray against the inward opening door from the gallery to the studio. We had a test trial and it made a heck of a din when it crashed to the floor and would certainly be heard on air! However, Peter's answer would then be that that person should not be entering without permission. But the odd thing was that even though he did this on several different occasions no-one ever came in. They must have had a sixth sense that there was a noisy tray ready to be knocked over, and we were all disappointed when it never happened... . Actually, Peter was a very friendly sort of person, but it just irritated him that his authority was being over-ridden – as well as professional conduct!

One catch-phrase that always caused some mirth each day, and no-one ever seemed to tire of it, was "I'm going to P". This was a daily ritual for one of the cameramen, who had to go to Studio P to check the in-vision presentation camera for good framing with the presenter and background, and make sure that the edges of the autocue weren't in shot. Room was again tight and as the lens had to be on a fairly wide angle this wasn't too easy!

By the way, the P in Studio P stands for Presentation, as it does wherever in the BBC you see a Studio P. As these were the days of in-vision announcements in the Regions and BBC North West had moved into the colour era, it had managed to cobble together parts from a PC 80 and make a sort of, errr, 'colour' camera. It was all a very delicate affair, with loose boards, a panning head which must have been from the ark, and a 16mm zoom lens (which didn't track) bolted on to the front. There seemed to be always some problem with this camera and the two engineers were always battling to

get some sort of decent colour picture out of it minutes before transmission.

Just outside Studio P was a small ante-room and this was where the infamous BBC North West world was kept. An industrial grade vidicon in a light-proof box was trained on a 3" diameter motorised globe, which had mirrors behind it. The output was then colourised to the normal blue on black. Unfortunately the globe was made of some sort of plastic that didn't take to paint very well, so every month or so some paint would flake off and the South Pacific would gain a few more islands! Therefore a monthly chore by one of the Floor Managers was to paint out the new islands..... but more new ones would appear the following month! I also remember that the globe juddered quite a bit but the lag of the vidicon took care of that! Also, the iris had to be set fairly critically so that the colourising didn't tear – a common problem with early colouriser technology.

Captions or a clock could be slotted-in in front of the globe and this was often done live by an F.M., i.e. the presentation would start with a caption of programmes for the following day, shot of presenter in vision, shot of clock. Those who used to watch Look North West in the early days of colour may remember that the telecine inserts were in colour, but the studio items were in monochrome. This was before I joined the Beeb, but when I asked about this years later I was told that the studio did have the colour cameras but the racks engineer had not been graded for colour, so the Union would not let colour go out. However, the telecine engineer was graded for colour so he could!

One thing I missed (and obviously gladly) was the Woolworth's fire. Woolworths was right next door and I was in Studio N and went into Woolworths the day before the fire. Makes you think – quite a few lives were lost there.... . Then, the end of the BBC in Piccadilly after about 55 years. First of all network radio moved to Oxford Road, then Radio Manchester, then Comms, then Telecine (VT was always either in a mobile VT van or at Oxford Road) and finally in 1981 Studio N became Studio B, Oxford Road. Once Comms had moved, we found that we could use their area as a nice pleasant place to have an afternoon cup of tea, and that usually ended up with me as junior brewing up....

One final thing before we leave Studio N for the last time... remember the power cuts of the 70s? When this happened, Studio N would have a small ex-army generator wheeled into the street way below the Studio, and it had just enough power to power-up one of the 2001s, a couple of lights and the sound desk. From what I remember the output of the camera went straight to the Central Apparatus Room in Oxford Road, who switched it, along with the sound on a P.O. line, direct to the transmitter at the appropriate time – no proper opting out by the Technical Manager! Nor was there any telecine so the normal news programme became a short one-man-to-camera bulletin!

Now, Studio B in Oxford Road is still using the four LDK5s that were bought in 1981 to replace the 2001s – I know which I prefer, and it isn't the former! 2001s were a correctly-designed, integral lens, handy shot-box, professional camera....

THE FINAL DAYS OF 405

A personal story by Martin Rigby

I joined the transmitter department of the BBC in March 1979 and went through the usual 'A' induction course at Wood Norton.

Following this course my fellow trainees (Technical Assistants - TAs) were sent out to bases up and down the country as part of our training until the 'B' course about a year later.

However, before we were let loose on our own, the transmitter recruits were required to undergo further classroom training first at Sutton Coldfield and then at Daventry in order to learn more TV and high power HF (short wave AM) techniques respectively. These courses were each of four weeks' duration.

At this time the Band I service was well into its twilight years, and I have very little recollection of the old equipment at Sutton Coldfield, as the emphasis was very much on the UHF equipment.

It was not until I was posted up to Kirk O' Shotts, between Glasgow and Edinburgh that I became well acquainted with Band I 405-line transmitting equipment.

At that time, 405/Band I was very much on the go from KoS, but being a trainee at that time there was not as much 'hands on' experience as I would have liked, owing to the fact that it was clearly an obsolescent medium and overindulgence in it was not exactly encouraged.

However, I was struck most strongly by a couple of factors :-

- 1) The vision transmitter (an E.M.I. manufactured 60kW peak white if I remember correctly) was a beautifully made piece of kit.

The old timers there took great pride in telling me that in its day it was regarded as the very forefront of engineering practice, and also that at one time it was the most powerful TV transmitter in the country. I vaguely remember that it was capable of 75 kW peak white, and was slightly under-run at 60 kW. I cannot verify this, of course, but I dare say that someone in your society might have the evidence to the contrary.

I remember seeing power rheostats (probably for smooth application of filament volts) utilising a chain drive or something of that nature. Absolutely wonderful to look at.

The sound transmitter was an S.T. & C. job - more mundane in appearance, but it did its job nevertheless.

Incidentally it is now virtually unknown for the sound and the vision transmitters to be from different manufacturers.

2) We had to monitor the quality of the output of all our radiated services, including the Band I, and I was amazed at the quality of the sound we put out. It was not significantly worse than that on our Band II (or the Band V from Black Hill for that matter). Having been brought up with 405 line sets where it was impossible to hear ANY bass notes at all, this was quite amazing to me.

The reserve transmitter was a Marconi 5 kW peak white vision/sound pair, I think that the BBC had quite a number of these around the country. When I subsequently was posted to Sandale in 1985, there were the remains of an identical transmitter awaiting the cutter's torch.

This transmitter was a pre-war design, and nothing like as impressive as the E.M.I.

Modernisation had encroached upon the Band I equipment to a certain degree, however, as an automatic control system had been designed and installed, enabling the equipment to be started and stopped remotely. The command signals for 'Band I Start' and 'Band I Stop' originated at Broadcasting House, and were sent up the country on a spare channel on the BBC's PCM distribution network.

We were still maintaining the Band I equipment at this stage. Weekly routine changeovers of cooling plant were religiously carried out, as were the filament polarities. It may surprise some people to know (as indeed it surprised me at first) that where high power valve filaments were supplied at DC, it was common practice to reverse the polarity of the feed voltage periodically in order to 'even out' the filament emission. Apparently there would always be more emission from the positive end, than from the negative, and in time the valve would suffer reduced emission prematurely, if the polarity reversal wasn't carried out.

The reserve transmitter would be run up once per week into test load, and would occasionally be pressed into service if the main transmitter failed. As the main equipment was very reliable, this was a relatively rare occurrence at that time.

The Final Chapter

Around a year before the end of 405 from Kirk O' Shotts, a missive came round from Head Office that we were to use by default our reserve transmitter, and to mothball the former main equipment, only using it in an emergency.

Understandably, we engineers were not all that keen on this, especially given the reliability and performance of the main equipment mentioned above.

This policy had some interesting, and unfortunate consequences.

Firstly, like most high power transmitters which go into semi-retirement, the former main equipment became very unreliable often failing to work when needed.

The former reserve equipment, never all that reliable in the first place began to fall apart after so many years of only being run up once per week. From time to time it

became quite a struggle to get anything on the air at all ! A no-win situation for the viewers !

Fortunately by that time we knew of very few viewers directly off Kirk O' Shotts, but there were still quite a number receiving the 'Medium Power' relay at Ashkirk, near Selkirk in the Borders.

Now the senior engineer at the maintenance base at Selkirk, who were at that time responsible for the maintenance of the Ashkirk transmitter, was always giving us severe ear-ache about how dreadful the Band I output was. No-win for the engineers either !

As far as I can recall, I was the last engineer at Kirk O' Shotts to attempt to carry out a performance test on the Marconi Band I equipment. Most of the others had lost interest, and I guess I must have been keen !

I was horrified to find that the sideband response was all wrong (there was more energy in the upper sideband than in the lower - I had to look several times at the test equipment before I could believe my eyes. On 405 lines where the sound frequency was below the vision, the upper sideband was attenuated by the VSB filter to limit the transmitted RF bandwidth. (Note: The channel 1 transmissions from Crystal Palace were true Double Sideband).

We subsequently figure out that the sideband response was incorrect due to the fact that we had been replacing mica dielectric in tuning components which had failed with PTFE. PTFE was much more widely available, and has suitable voltage breakdown characteristics, but a totally different permittivity! Basically the tuned circuits had all gone HF, thus attenuating the lower sideband.)

Anyhow, I was told not to spread this information too widely, as the service had not got long to go - I just pitied the poor viewer (or viewers ?)

Standards Converter

Incoming BBC1 signals were exactly the same ones as were used for the 625 line colour service from Black Hill. We had a line-store standards converter, to carry out the conversion to 405 lines. This equipment, widely used in the transmission department was full of germanium transistors in a primitive short-term memory circuit. It was a very common fault for this to produce one or more vertical white lines on the video output where a memory element had failed. The normal technique to locate a failed memory element was to run a wet finger over the circuit boards until the white line we 'induced' by doing this coincided with the line on the monitor.

Aerials & Feeders

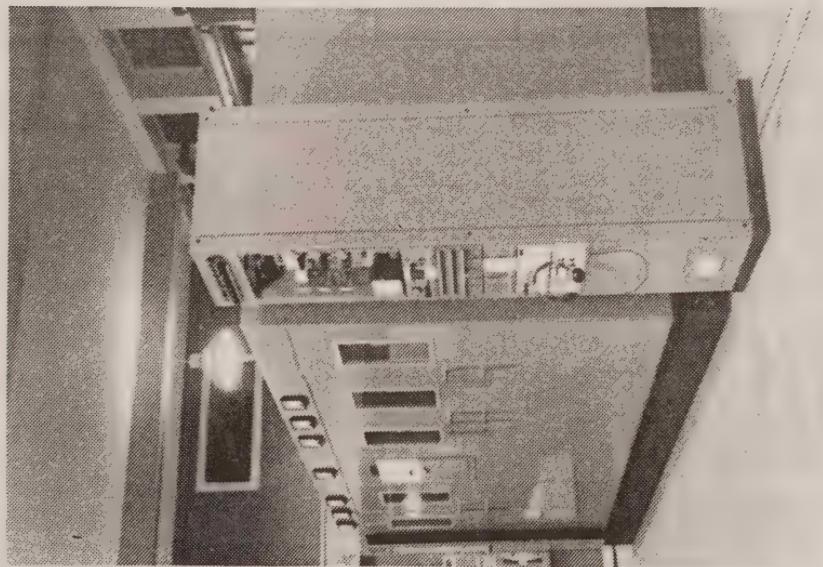
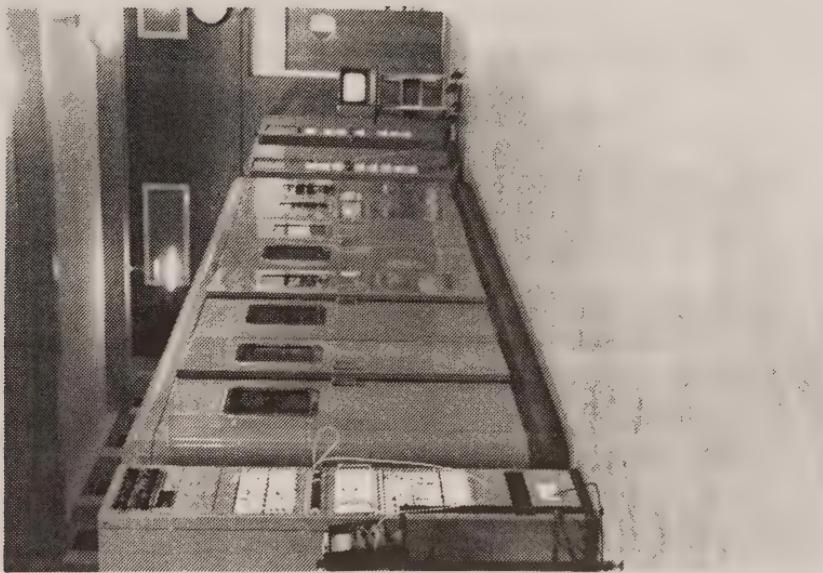
The feeder system at Kirk O' Shotts was also very interesting, and I think similar systems were quite common around the country. The feeders were basically solid coax suspended from somewhere near the top of the mast, and were semi-rigidly fixed with expansion joints between sections. Failures of the expansion joints were not uncommon, causing reflected power trips in windy weather.

There were main and reserve aerials, each a tier of (four, I think) dipoles, the main being right at the very top of the mast (at 750 feet) and the reserve somewhere lower down, I think below the Band II cylinder. Each aerial had its own feeder system, with changeover switches at the bottom.

The Band II FM services had a similar feeder system. I remember on the Band II feeders that we tested the continuity of the whole system by passing a large current from a battery supply through the feeder, and by measuring the voltage drop across the inner and outer. This was known as the 'drop test', and a special high current, low voltage power supply was used. The aerial was a slot aerial and would therefore be a nominal short circuit at DC. A failed expansion joint would show up as a higher than normal voltage drop across the entire feeder system. I can't remember the exact feed arrangement for the Band I but a similar test may have been appropriate.

Hopefully my recollections may spark off a few more from other interested parties. It would be nice if anyone concerned with the design and commissioning of the EMI transmitter could be unearthed.

Martin's illustrations follow. As he says, "Please enjoy the photos - transmitters have a habit of looking about as exciting as 'electronic broom cupboards'. They show both the Marconi 5kW (in use at the time, I suspect very soon before the end of the Band I service) and the ST&C sound and EMI vision (the standards converters are next to the video monitor).



Malcolm Batchelor introduces

THE ULTIMATE A - Z INDEX OF BBC-2 TRADE TEST COLOUR FILMS

I thought readers may be interested in a copy of the ultimate list of BBC-2 Trade Test Colour Films. Not strictly 405 Alive but the magazine does touch upon the early days of 625 and test card topics, and looking back through earlier issues I believe that this part of television history has not been covered, at least not to exhaustion.

Starting dates given are for the first regular appearance of a film in a BBC-2 Trade Test Colour Transmission. Final dates given are for the last showing of a film in a BBC-2 Trade Test Colour Transmission. All duration/running times are approximate.

ALGERIAN PIPELINE BP/Greenpark Production	28 min.	09-02-70 - 14-08-73
AMONG THE PELICANS A Film from Romania	17 min.	22-12-69 - 16-09-70
AMSTERDAM A Film from Holland	21 min.	27-01-69 - 26-08-70
ANCIENT MONUMENTS - 1 Public Announcement Film Unit	7 min.	07-11-68 - 14-02-70
ANCIENT MONUMENTS - 2 Public Announcement Film Unit	12 min.	30-10-72 - 31-05-73
ATLANTIC PARKS National Film Board Of Canada	17 min.	29-08-68 - 09-04-73
BEAUTY IN TRUST National Benzole/Random Production	21 min.	05-11-65 - 03-08-71
BEHIND THE SPACEMAN From the USA	16 min.	17-04-72 - 16-05-73
BIRTH OF A RAINBOW New Zealand Film Unit	18 min.	09-07-68 - 08-08-73
BLOOD CAN WORK MIRACLES Shell Film	12 min.	25-11-67 - 14-12-67
BORGO à MOZZANO Shell Italiana Film	25 min.	11-03-68 - 20-03-68

BOTH WAYS TO BALLYMENA		
British Travel Association	13 min.	06-11-69 - 24-07-71
BRITAIN		
A BOAC Film	26 min.	25-08-69 - 22-08-73
BULONG AND BOLA		
Shell Film	16 min.	24-08-69 - 21-08-73
CANADIANS CAN DANCE!		
National Film Board Of Canada	21 min.	23-01-68 - 09-09-71
CANTAGALLO		
BP Film	21 min.	29-03-71 - 24-08-73
CAPTIVE RIVER		
Shell Film	28 min.	30-08-64 07-04-70
CASE HISTORY		
New Zealand Film Unit	15 min.	04-03-68 - 02-05-70
CATTLE CARTERS		
BP/Greenpark Production	28 min.	03-05-71 - 13-08-73
THE CHOICE		
ICI/Millbank Production	25 min.	24-05-71 - 21-08-73
CLEAN AIR		
Shell Film	21 min.	19-01-67 - 16-03-67
COACH TRAVELLERS		
Shell Film	20 min.	10-05-67 - 09-09-67
COLOUR		
ICI Film	13 min.	07-07-69 - 31-12-70
COLOUR TELEVISION		
Mullard Film	15 min.	04-12-67 - 27-07-68
COUPE DES ALPES		
Shell Film	36 min.	31-08-64 - 07-11-68
CROSSROADS OF CIVILISATION		
Shand Pictures Production	19 min.	25-01-71 - 20-08-73
CROWN OF GLASS		
Shell Film	15 min.	11-04-68 - 17-08-73

DAIRY INDUSTRY			
New Zealand Film Unit	14 min.	15-11-71 - 21-08-73	
DEVON – COUNTY FOR ALL SEASONS			
Devon Tourist Board	22 min.	25-09-72 - 21-08-73	
DIAVOLEZZA			
BP Film	13 min.	28-09-66 - 11-05-68	
DIESEL TRAIN RIDE			
British Transport Films	10 min.	03-10-68 - 27-01-69	
DIVERTIMENTO			
BP Film	7 min.	29-12-69 - 20-08-73	
DREAM OF NORWAY			
British Transport Films	18 min.	11-03-68 - 03-08-68	
ENCHANTMENT OF CAPRI			
An Aldolfo Pizzi Film	18 min.	05-01-70 - 27-11-71	
ENGLISH GARDEN			
ICI/Millbank Production	21 min.	28-12-68 - 06-03-69	
EVENTFUL BRITAIN			
Shell Film	25 min.	25-03-67 - 23-08-67	
EVOLUON			
Carillon Film, Holland	12 min.	17-02-69 - 14-08-73	
EXPO '70			
Australian News & Info Film Unit	10 min.	05-02-73 - 14-08-73	
FACES OF AUSTRALIA			
Josef Geesink Production	27 min.	18-01-71 - 16-08-73	
FLIGHT OF FANCY			
A BOAC Film	6 min.	04-08-69 - 23-06-72	
FOUR MEN OF INDIA			
World Wide Pictures	36 min.	03-09-68 - 29-03-69	
GIUSEPPINA			
BP/James Hill Production	28 min.	07-10-68 - 24-08-73	
GOLDEN CRESCENT			
A Film from Turkey	27 min.	07-09-70 - 30-12-70	

GOLD MINERS			
A Film of Africa Production	21 min.	27-12-68 - 02-06-69	
GRASS GROWERS			
New Zealand Film Unit	11 min.	17-08-70 - 22-08-73	
GROWING FLAME			
Shell Film	10 min.	19-03-68 - 16-08-69	
HIGHLAND PLAYGROUND			
British Travel Association	11 min.	31-03-69 - 09-08-73	
HIGHLANDS IN THE SUN			
British Travel Association	11 min.	05-05-69 - 17-08-73	
HOME-MADE CAR			
BP/James Hill Production	28 min.	02-09-68 - 23-08-73	
HOOK, LINE AND SINKER			
Esso Film	19 min.	10-01-68 - 03-06-69	
HOW A MOTOR CAR (ENGINE) WORKS			
Shell Film	16 min.	27-01-68 - 14-08-73	
HYDRAULIC POWER TRANSMISSION			
Shell Film	28 min.	05-11-65 - 21-04-67	
IMPRESSIONS OF EXPO '67			
National Film Board Of Canada	8 min.	26-04-68 - 29-07-71	
IT'S THE TUBE THAT MAKES THE COLOUR			
Mullard Film	18 min.	06-05-68 - 22-08-73	
JAMAICA – NO PLACE LIKE HOME			
Jamaica Tourist Board	16 min.	09-02-70 - 26-03-70	
JAPAN – SEASON BY SEASON			
Japan Tourist Film Organisation	28 min.	21-11-68 - 07-08-69	
JAPAN – THE BEAUTIFUL			
Shoehiku Company Production	27 min.	01-03-71 - 15-12-71	
JOURNEY INTO THE WEALD OF KENT			
National Benzole/Random Production	21 min.	26-08-66 - 24-08-73	
KERMESSE FANTASTIQUE			
A Philips Cartoon	10 min.	04-10-69 - 08-12-70	

L FOR LOGIC			
Central Office Of Information Film	13 min.	24-07-73 - 07-08-73	
LA COTE D'HIVER			
A Film From France	15 min.	23-09-68 - 07-11-68	
LAND OF THE SUN RETURNING			
A Unicorn Production	27 min.	13-09-71 - 07-08-73	
LAND RECLAMATION			
BP/Shell Mex Film	22 min.	26-08-66 - 20-07-72	
LIGHT			
A Philips Film	16 min.	10-04-72 - 20-08-73	
LURE OF THE BAHAMAS			
A Sound Magic Production	27 min.	28-10-68 - 24-03-69	
MACHINERY ON THE FARM			
Shell Film	29 min.	01-09-66 - 17-04-67	
MULTIPLICITY			
A Crawley Film Production	26 min.	04-01-72 - 22-08-73	
NETWORK			
An AEI Film	28 min.	19-12-67 - 17-06-68	
NO CLAIMS BONUS			
A CCI Film	5 min.	09-12-66 - 25-01-67	
NORTH SEA QUEST			
BP Film	16 min.	17-11-69 - 24-08-73	
NORTH WEST 200			
Shell Film	13 min.	31-03-67 - 24-11-67	
OIL UNDERGROUND			
Shell Film	17 min.	10-05-67 - 22-08-73	
OMNIBUS			
British Transport Films	18 min.	05-07-67 - 27-11-67	
ONE JUMP AHEAD			
GPO/Littleton Park Production	9 min.	03-04-70 - 15-08-73	
ON THE SAFE SIDE			
A U.K.A.E.A. Film	18 min.	01-05-68 - 17-07-73	

OVERHAUL		
British Transport Films	16 min.	13-07-67 - 01-12-67
PAINT		
Shell Film	25 min.	07-02-68 - 23-08-73
PAN-TELE-TRON		
A Philips Cartoon	10 min.	06-03-70 - 17.08-73
PEACEFUL REVOLUTION		
An	26 min.	02-12-67 - 12-03-71
PEMBROKESHIRE- MY COUNTY		
Shell Film	26 min.	06-12-67- 16-02-68
PEOPLE PLUS LEISURE EQUALS		
BP/Shell Mex Film	29 min.	18-06-73 - 08-08-73
A PLACE TO LIVE		
Swedish Institute Film	18 min.	01-06-70 - 22-01-71
POWERBOAT '66		
BP Film	23 min.	12-08-68 - 13-05-70
POWER TO FLY		
Shell Film	20 min.	04-05-66 - 22-06-67
PROMISE OF PAKISTAN		
A Rayant Picture	27 min.	02-11-70 -30-03-71
PROSPECT FOR PLASTICS		
Shell Film	28 min.	20-09-64 - 07-11-72
QUESTIONING CITY		
Pye Film	21 min.	26-08-66 - 12-04-67
QUESTION OF SPRINGING		
Shell Film	17 min.	20-09-64 - 01-03-67
RIDE THE WHITE HORSES		
Ford Film Unit Production	25 min.	03-08-70 -21-08-73
RISK		
World Wide Picture/Stenhouse Group	14 min.	30-01-70 - 25-11-71
RIVAL WORLD		
Shell Film	24 min.	26-08-66 - 21-08-67

ROADS TO ROAM New Zealand Film Unit	13 min.	18-03-68 - 15-08-73
ROSEWORLD '71 New Zealand Film Unit	10 min.	03-07-73 - 20-08-73
ROUTE BURN New Zealand Film Unit	10 min.	08-01-73 - 21-08-73
ROYAL RIVER Shell Film	17 min.	30-03-67 - 23-11-67
RUN AWAY TO SEA Athos Film Production	22 min.	27-12-68 - 08-09-70
SEA OF TRIESTE A Film from Italy	15 min.	23-03-70 - 06-01-72
SEPTEMBER SPRING BP Film	18 min.	26-08-66 - 22-03-67
SHADOW OF PROGRESS BP/Greenpark Production	24 min.	22-02-71 - 23-08-73
SKYHOOK BP/James Hill Production	17 min.	20-09-64 - 04-10-71
SMALL PROPELLER BP Film	22 min.	02-12-67 - 23-08-73
SMALL SMOKE AT BLAZE CREEK National Film Board Of Canada	9 min.	11-09-72 - 23-08-73
SNOFARI New Zealand Film Unit	17 min.	24-08-69 - 18-06-70
SOMETHING NICE TO EAT From The Gas Council	20 min.	06-07-70 - 23-05-73
SONG OF THE CLOUDS Shell Film	15 min.	17-02-67 - 25-03-67
SOUVENIRS FROM SWEDEN Swedish Institute Film	21 min.	27-04-70 - 14-08-73
SPLENDID DOMAIN National Film Board Of Canada	28 min.	13-02-68 - 12-08-71

SPRING IN COLOR		
Philips/Uniefilm Production	5 min.	17-02-69 - 05-06-72
STORY IN THE ROCKS		
Shell Film	17 min.	02-12-67 - 23-01-71
STUDY IN STEEL		
British Steel Film	26 min.	14-10-69 - 22-08-73
SURF BEACH		
Australian Film Unit Production	17 min.	26-07-71 - 10-08-73
TIDE OF TRAFFIC		
BP/Greenpark Production	27 min.	08-01-73 - 15-08-73
TOE HOLD ON A HARBOUR		
New Zealand Film Unit	10 min.	27-01-68 - 14-12-68
TRANS-CANADA JOURNEY		
National Film Board Of Canada	28 min.	09-05-68 - 20-01-71
TRANSPORT ABILITY		
A U.K.A.E.A. Film	18 min.	07-10-69 - 16-08-73
TRAWLER BOY		
Shell Film	27 min.	26-07-65 - 28-03-67
UNDERWATER SEARCH - 1		
Shell Film	20 min.	26-08-66 - 12-04-67
UNDERWATER SEARCH - 2		
Shell Film	20 min.	26-08-66 - 12-04-67
UNSPOILT LAND		
New Zealand Film Unit	18 min.	22-01-73 - 15-08-73
VANISHING COAST		
National Benzole Film	27 min.	09-12-68 - 14-12-71
VILLA 'MON RÈVE'		
A French Cartoon	13 min.	26-08-68 - 27-12-69
WELSH WELCOME		
British Travel Association	15 min.	26-10-70 - 29-10-71
WE'VE COME A LONG WAY		
BP Cartoon Film	10 min.	11-05-70 - 16-08-73

YOUNG GIANT KAINGAROA
New Zealand Film Unit

18 min. 11-03-68 - 10-04-68

YOUTHFUL MARCH OF KOREA
National Film Centre Production

21 min. 11-12-69 - 06-02-70

A brief editorial postscript here. A number of these films are available on VHS videotape, for instance the British Transport Films (through specialist railway video suppliers) and some BP titles (direct from BP). Perhaps someone in the know could compile a list of these, together with contact addresses, for publication.

Some of the other films mentioned can still be borrowed on 16mm film from film libraries or from the organisation who commissioned the film originally and it is possible that somebody has hired these films and made a VHS viewing copy. Copies also turn up regularly in the lists of film dealers such as Debonair Distributors (for addresses see The Sound and Vision Yearbook advertised in this magazine).

It is understood that a number of copies are circulating and that small ads placed in 405 Alive and the magazine of the Test Card Circle can produce results.

DEATH LEADS AND THE FACTORY INSPECTOR

Michael Stott

I was wondering if the little ditty will be of some use in *405 Alive* as I think most workshops in the 50s and 60s did this in one form or another.

As a young radio and TV apprentice starting at the age of 15 at the local Co-op in 1959, one of my first jobs was to make up the Death Leads! As we had just moved into a new workshop built and fitted out by the Co-op joiners and electricians, all the benches were fitted with 13-amp sockets mounted on individual mattress blocks. At this time most of houses in this area were fitted with 2 and 3 pin, 5-amp sockets and also the massive 15-amp sockets. When radios and TV sets were brought for servicing this required the removal and refitting of the customer's plug; this was overcome by the use of 'The Death Leads'.

The leads consisted of a 13-amp fused plug fitted with a 2-amp fuse: this was fitted with a 2 metre length of twin flex, the ends being fitted with two RS (Radiospares) croc. clips. These were then covered with a layer of black tape, the type made from a 10 cm ribbon impregnated with a tarry substance (this type of tape can be rejuvenated by slowly pulling it over a hot soldering iron). The softness and flexibility of the tape allowed the clips to be opened and fitted over the pins of the 5-amp and 15-amp plug tops. The tape also provided insulation and the clips allowed the changing of the mains polarity in the case of a live chassis.

One day as the boss and myself were working in the workshop, the store manager entered with the local factory inspector. We had been warned that he was coming so all the sets that were on the bench and the sets on the soak-test bench had had their plugs removed and fitted with 13-amp plug tops (a job that took me nearly two hours).

As the inspector made his way around the workshop and the works area he finally returned to the workshop, made a comment that the service department was well run and organised.

But he had one question, what did we do when a set came in for service with a non standard (i.e. not a 13-amp type) plug was fitted. There was a slight hesitation in the reply. This was a signal to me and in my keenness to help, I stepped forward and announced "We use the Death Leads, Sir!!!"

Well, you could have cut the air with a knife at this point. I turned and removed a set of leads from behind the workshop door that had been wedged open, and with outstretched arm presented a rather poor specimen for inspection. As the inspector reset his glasses on his nose and took the offending leads from me, both the boss and the store manager burst out with a bumbling explanation that contradicted each other. At this point the inspector handed back the leads to me and made the comment "I do not wish to see them the next time I come" and left giving the workshop a clean bill of health.

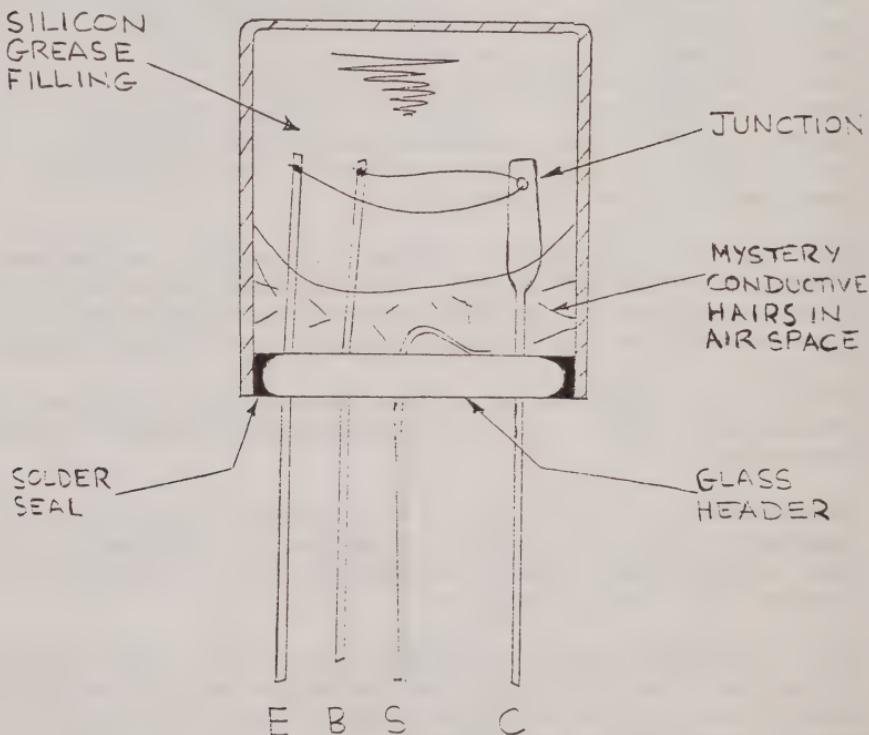
The next time he came to do an inspection both the leads and myself were banished to another Co-op department and a single 5-amp and 15-amp socket were fitted under the bench as a concession the inspection.

I must say this type of connection leads were still in use for many years; I still have a set hanging in the shack wall, and still find use for them on mains leads that are too short to fit the clips of the Safeblock on the workbench. (But where do you get the black tape as the modern plastic type just is not any good for this job!).

Well I hope this is of some use to your readers.

Yes, as an example of how NOT to do things!!! On the other hand you survived to tell the tale, but we don't want any of our readers suffering at the hands of Death Leads. [Editor].

Continued from page 7 . . .



SECTION OF AFI17 OC170 TYPE DEVICE

PIECES OF PYE

Dicky Howett spotlights the famous radio and television manufacturer Pye Ltd and talks to retired Pye engineer Ian Waters

Today, little remains of the Cambridge electronics company Pye. In the 1930s, Pye Radio Ltd was world famous as a manufacturer of stylish radio sets, including the familiar art deco 'Sunburst' MM model of 1932. Also, Pye was in the vanguard of television development. In 1930 it established a laboratory to investigate the commercial possibilities of cathode ray tubes. This lab eventually became the subsidiary company Cathodeon Ltd. By 1936, just in time for the opening of the BBC's television transmissions, Pye had its first television receivers in the shops. More models appeared as television slowly impinged upon the public consciousness. These receivers included 'budget' sets like the now extremely rare Pye 817 (1938) which had a picture measuring only 4 x 3½ inches on a 5-inch tube.

Ian Waters joined Pye in 1948 at a time when the Company was expanding in many interesting directions. Ian recalls how he began his long association with Pye.

"I entered Pye as a Radio Engineer-Apprentice. It was a five year stint which initially sent us round all the mechanical and assembly shops for a three year tour. During the final two years, apprentices were supposed to finish their training in the department of their choice. However in 1951, towards the end of my third year, the Company got a big order from the USA for television cameras."

This was fortuitous both for the company and Ian. He was, at that time, an enthusiastic television amateur and had built his own television camera, the second to be made in the UK and probably the world. Because of this practical experience, Pye decided to pull Ian off the apprenticeship scheme and start him straight away as a junior engineer on television camera development. Ian's task was to help fulfil that large American order, by working on Pye's recently developed Mk. III camera.

Because of a massive expansion of television in America, there was a dearth of suitable television broadcast equipment. As a consequence, a U.S. company called General Precision Laboratories Inc. was trawling Europe for usable kit.

G.P.L. Inc. found Pye's Mk. III 3 inch image orthicon camera highly suitable and it shipped many channels back to the States, re-badging them in the process.

"Actually, it was towards the end of the Second World War that Pye really started to develop television cameras and transmitters," Ian remembers. "What happened was that the chap running Pye, C.O. Stanley, announced he wished to diversify and gave two young Pye engineers John Brinkley and John Edwards their heads. He asked them what they would most like to do. Brinkley chose to work on radio communications (which became Pye Telecommunications Ltd) and Edwards chose television broadcasting."

In 1946 a department was established at Pye to study the whole of television broadcast equipment. An experimental studio was built and equipped with imported RCA 827 camera channels. These cameras employed iconoscope image tubes. (An unusual feature of the RCA 827 camera was that it had a dual viewfinder. This showed not only an electronic image but superimposed, an optical image of a slightly wider view). Pye gained much valuable experience from this studio.

By 1947 the department had advanced sufficiently to enable it to undertake the design of a mobile OB (outside broadcast) unit, was built into the body of a Humber shooting brake. This unit contained two iconoscope (Philips tube) single-lens cameras and two dollies. Also crammed into the Humber was the vision and sound equipment, a link transmitter using sync. modulation (a new concept which used the vision carrier for the sound signal) and an hydraulic aerial sticking out of the roof. This mobile unit travelled the Continent and the Middle East, introducing Pye as a serious contender in the new and expanding world of television equipment manufacture. Pye also exhibited this mobile unit at the 1947 British Industries Fair at Earls Court and also attended a big television demonstration in Copenhagen.

In 1949, combined with intensive work at Cathodeon, Pye produced its first broadcast quality camera, the PHOTICON (or Mk. I). The Pye Photicon was an image iconoscope type camera with a four-lens turret and an electronic viewfinder (cameramen at the time were used to framing an inverted optical image. They actually asked for the electronic viewfinder scans to be reversed! Pye wisely refused). The Photicon camera had an image tube that was a distinct improvement over EMI's existing Super Emitron. Pye's Photicon was much smaller (half the size) than the original Super Emitron. Also the Photicon tube came ready potted in plaster of Paris in a sealed, quick-fit black box, complete with all its scan coils and head amps. (Pye didn't allow broadcasters to fiddle around with the tube)

Just a few plugs and a screw secured the Photicon in place, which was inserted on rails. Any replacement due to unit failure could be achieved with great speed. This cost and time-saving advantage appealed to the BBC and they ordered immediately a new OB unit (MCR 3) complete with three of the new Photicon cameras. This unit transmitted for the first time on the 12th Feb. 1949. As a very junior engineer, Ian Waters' non-technical type contribution to this spanking new OB unit was to paint the bottom of the scanner with Bitumastic underseal! (Outside broadcast vehicles became one of Pye's most successful products. Over 150 units were sold throughout the world).

Also in 1949 another Pye innovation arrived. This was the 'zoom lens' which was fitted initially to a Photicon camera. This experimental 2:1 lens, (the first to be specially made for television cameras), was designed by Dr. H.H. Hopkins of the firm W. Watson and Sons, a Pye-owned company. An improved 5:1 version was soon developed and this was fitted – typically to the later Pye Mk. III cameras – on a sledge-shaped support. (Only one of these special 'sledge' mounts is known to exist).

Later in 1952 an improvement of the Pye Photicon was suggested by Dr Richard

Theile, a German vacuum physicist working at Pye. At the time all high velocity picture tubes such as the Photicon had shading problems. The picture displayed edge flare and uneven patches which varied in proportion with the level of illumination of the televised scene. This shading was due to spurious electrons bouncing around inside the tube. Also there was an absence of a signal representing a black level. Eventually, a solution to these problems was found in a process known as Photo-Electron Stabilisation. The camera was referred to as the PESTICON (or Mk. II).

The Pesticon tube was constructed with an additional semi-transparent photo-cathode surrounding the storage plate plus two additional strip electrodes. The rear photo-cathode, when illuminated by built-in pea-bulbs, released electrons. These were attracted to the target and steered to land in the correct place by variable voltages applied to strip electrodes on the edges of the target. This improved the picture balance. Also the signals corresponding to black areas now had a constant value and thus a definite black level output signal.

Ian Waters has a story about a Pesticon. "I was asked to mount an exhibition of amateur television at the 1954 Radio Society of Great Britain's display in London. My home-made camera had a Photicon but it was getting a bit insensitive so I wandered over to Cathodeon to scrounge another tube. The test engineer gave me a sub-standard reject tube with a blemish on the target. But this particular Photicon looked a bit different with extra leads at the back. I was told to ignore them and just use the tube like an ordinary Photicon. I discovered, of course that this was one of the new Pesticon tubes. I soon connected the extra leads and got the thing working perfectly with a good black level and no picture shading. On the day of the Radio Society exhibition everyone marvelled at the pictures from my camera including two distinguished gentlemen who wandered over and expressed great interest in my camera and its pictures. I recognised these two chaps at once because they were none other than D.C. Birkenshaw and R.H. Hammans, top BBC television engineers. Mr. Birkenshaw took off his hat to me and then immediately placed it over the lens. 'Excuse me,' he said, 'But that tube can't be an Iconoscope and it can't be a Photicon, because I can see it's got a black level!' So I owned up. Anyway, the next day I was summoned by the technical director of Pye. He was furious, wanting to know why the BBC had phoned him to complain asking why it was that Cathodeon couldn't supply Lime Grove with tubes that had a proper black level, because they had seen such a tube working only the day before in a home made amateur camera!"

Combined sales of the Photicon and the later variant, Pesticon amounted to no more than fifty units. Hardly a runaway success, but at least Pye had cracked into a market dominated by Marconi and EMI.

Earlier, in 1949, Pye engineer Les Germany had visited the USA to report on CBS's colour television experiments. CBS's colour system was the Field Sequential System (This was adopted briefly in 1950 by the FCC as the official American colour system--and then quickly abandoned in 1951). Dr. Peter Goldmark had helped devise this purely mechanical colour system which consisted of a spinning three-colour disc (red green and blue) rotating quickly in front of an ordinary 3 inch image orthicon pick-up tube.

Ian Waters: "When Les Germany arrived back from the States he set up this top secret department. Of course, all of us young lads were terribly keen to know what was going on in that building with the painted-out windows and guards on the doors. Then one day an old chap from 'Goods In' came down the yard with three large rolls of coloured gelatine under his arm saying, 'Where's this bloke Germany? I've got something for him!'"

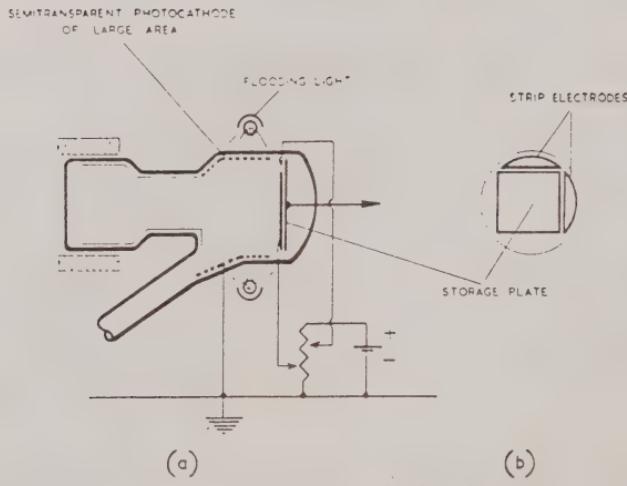


Photo-electron stabilization of an image iconoscope

The Pye Pesticon system, 1954

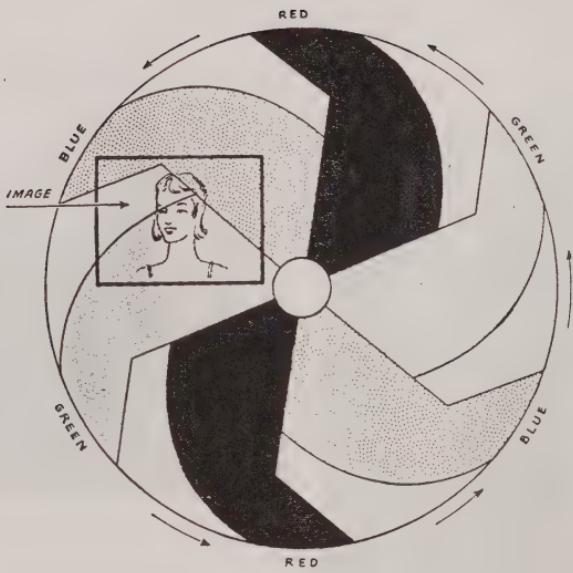
All the secrecy was essential because Pye had an eye on possible lucrative medical applications for colour television. Eventually, a 3-inch I.O. 405 line camera with a spinning colour disc was built for use in an operating theatre. The camera was fitted into a streamlined white enamel case and mounted on the end of an adapted Mole Richardson microphone boom. Whilst the camera dangled above the operating table, the cameraman at the other end had, mounted on the boom, pram mechanical controls for pan and tilt, plus a monitor. This camera (re-packaged without the mic

boom) was demonstrated at the 1949 Radio Olympia. Several 14 inch and 17-inch spinning disc monitors were positioned around the stand and members of the public were 'televised' in colour. It caused a big stir.

However, this relatively inexpensive colour system was not destined to last. Apart from incompatibility with existing receivers, the major drawbacks were tiresome flicker effects, lateral movement colour break-up and a field scanning rate (150Hz) requiring three times the normal bandwidth. Also from the receivers, the faint purring noise of the spinning colour disc could be heard. This might have proved distracting in the long term. More alarmingly, a television set actually disintegrated when somebody just turned it round to face the audience when the disc was still at full spin.



Ian Waters with his rare Pye camera sequential colour RGB perspex disc, used experimentally in the early 1950s.



The sequential colour disc system as used in a direct vision receiver.

Despite these problems, Pye's mechanical colour system had, in 1953, another airing at the Coronation. Three cameras were positioned on top of the Home Office from whence they relayed views of the procession to several London hospitals, including Great Ormond Street.

"All this colour experimenting served a useful purpose", adds Ian Waters. "Like the 30-line mechanical system, it was a dead duck, but at least it spurred people on into the right direction."

Despite all those departed water fowl, Pye Ltd continued to earn a good living in the commercial world. In 1951 the previously mentioned Pye Mk. III three inch image orthicon camera was launched. This camera proved an instant and justifiable success. The BBC first operated the camera in November of that same year. In 1955, the Pye Mk. III became the mainstay of commercial television. The colour scheme of the cameras (two-tone blue), matched perfectly the ambience of the fledgling broadcasters, especially ATV who used Pye Mk. IIIs exclusively in their London studios and OB fleet. The popular ATV show, 'Sunday Night At The London Palladium' was shot using Mk. IIIs.

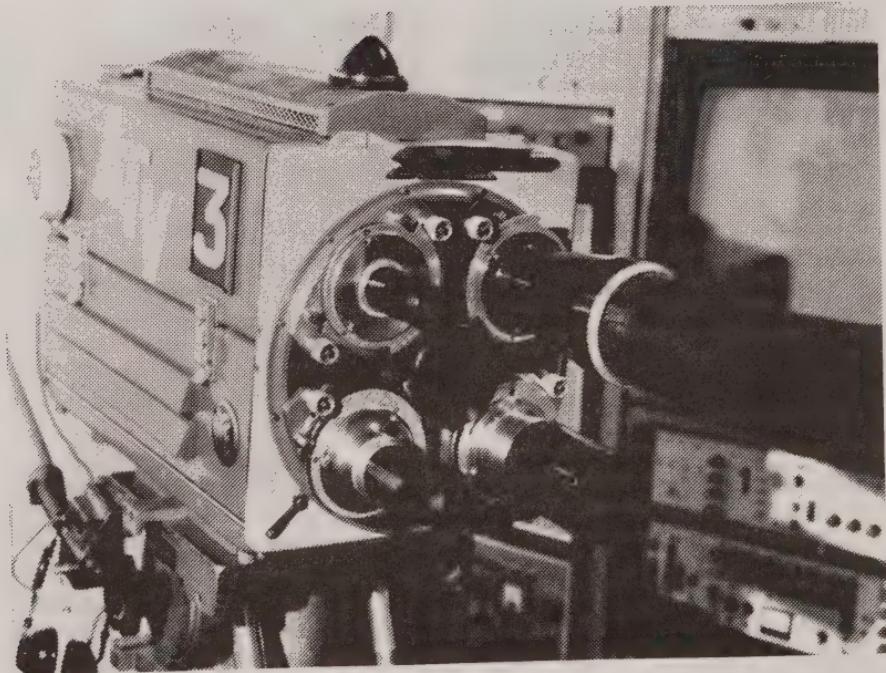
A major feature of the Pye Mk. III was the sheer automatic nature of it. Turret, focus and iris from the gallery. The camera could also be supplied with a dedicated separate pan and tilt mechanism. Unfortunately, these automatic functions were perceived as a devilish management scheme to do away altogether with the cameraman. Naturally, the various camera-craft unions objected. Eventually, despite these reservations, over two hundred and fifty Pye Mk. III camera channels were sold world-wide. The camera finally ceased production in 1960.

But returning to 1956, it was then, after his spell of National Service, that Ian Waters moved up in the Pye world. "I was put in charge of the Closed Circuit television development laboratory. We concentrated on supplying monitoring equipment to many areas of commerce and industry, particularly the nuclear industry. Before I left the department in 1960, I introduced the 'Cambridge Station' which was a 'cheap solution' vidicon studio package which consisted of two cameras based on the Mk. IV industrial Staticon and a multiplexed telecine/slide camera, all for educational or emerging country use.

A new division at Pye was formed in 1960. This was Pye TTV Ltd and it had been the creation of John Edwards; sadly he died just before it became a separate company.. Previously the section had been called 'Dept 24 Pye Ltd' but by the beginning of the nineteen sixties the section had expanded enormously. Thus Pye TTV Ltd became a separate entity within the group. (The 'TTV' bit actually stood for nothing. Chairman C.O. Stanley was simply fond of snappy tags). Ian Waters became Chief Sales Engineer, advising and providing television stations with telecine machines, transmitters, cameras and turn-key packages.

By 1960 new cameras on offer included the Pye Mk. IV 3 inch I.O. which had a manual skew turret and an optional-extra periscopic viewfinder hood. This gimmick found little favour and the model was upgraded to become the Pye Mk. V 4½.-inch I.O.

camera. This versatile machine could run 405, 525, 625 and even 819 lines! It also had a skew turret, cone-shaped and fully motorised, to allow long and short lenses to be mounted at an angle thus reducing the risk of cut off. ATV installed Pye Mk. Vs in its four new production studios at Elstree when the studio opened for business in 1960. Mk. Vs were installed also at BBC Riverside Studios and the Television Theatre. The Mk. V's reliability and picture quality was unmatched.



A Pye Mk. III 3-inch Image Orthicon camera from the Howett collection.

In 1963 the next new camera was the Pye Mk. VI 4½-inch image orthicon. This camera was produced to BBC specifications (in fact it was a re-jigged Mk. V), which included reverting yet again to a manual turret. (A wasted effort really, as the Mk. VI used zooms more often than not). The Pye Mk. VI was the last monochrome camera that the BBC commissioned and it was used exclusively, prior to the introduction of colour, in their OB fleet.

Pye's final monochrome camera was the Mk. VII introduced in 1965. This compact camera, which made extensive use of transistors, was fitted with a detachable zoom lens. Later versions used a Plumbicon photo conductive pick-up tube and because of the space saved, the zoom was incorporated within the camera body. The overall design concept won an award and examples were exhibited at the Design Centre in London. Despite that, and because of the emergence of colour, very few Mk. VIIIs were sold. (ATV bought six Mk. VIIIs for use in an OB unit but in 1967 the cameras were destroyed by fire at Notts. County football ground. The OB van was re-equipped with four LDK 3-PC80 colour cameras)

From the mid 1960s onward, the Dutch company Philips (which was taking control), supplied the designs for all Pye's broadcast cameras (initially badged 'Peto Scott'). The first Philips camera in U.K. broadcast use was the three-tube Plumbicon PC60 colour camera. This camera opened the BBC's colour service in July 1967 with tennis from Wimbledon. Visiting Americans at the time commented that back in the States they hadn't colour pictures nearly half so good!

Ian Waters moved from sales in 1971 to become Product Manager, Transmitters. He retired in 1992. "It's difficult to judge by modern standards how successful Pye was. The bread and butter was always receivers. The chairman C.O. Stanley would set up little developments like television transmissions [*i.e.* Pye TTV] to soak up profits, rather than pay excess taxes."

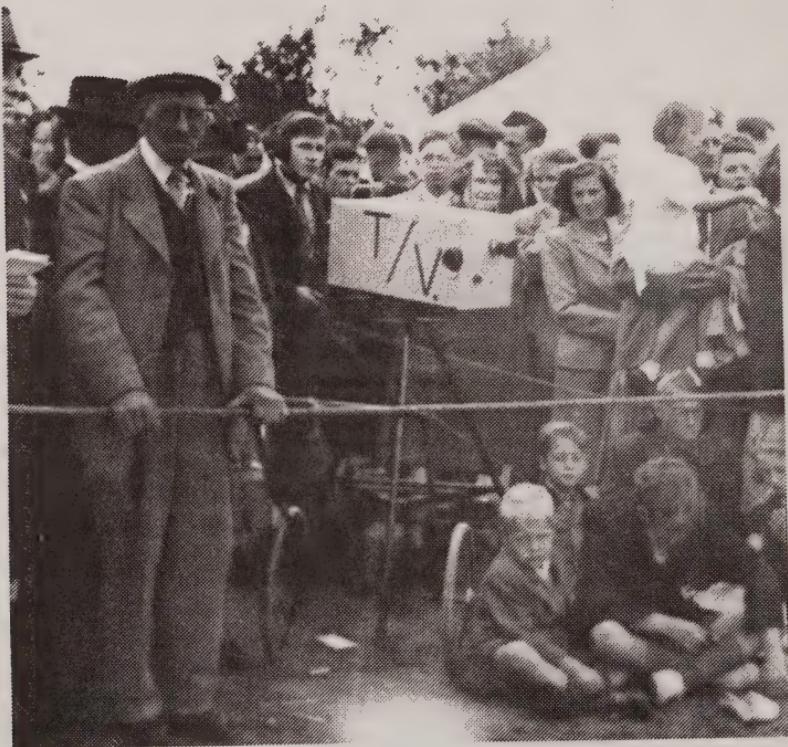
"If we had a good idea, we knocked it up in the lab and then put it on the market. If it was a success then the world beat a path to your door. If it was a failure, well, there was always the telly set sales to fall back on. Unfortunately, during the 1960's telly set sales fell badly due to the uncertainty about 625 lines and colour. Nobody was buying new monochrome sets in case they became obsolete. This hit profits and so on. Ultimately in 1967 Pye was bought outright by Philips Industries.

"The studio side of Pye TTV Ltd was closed by Philips in 1986, but the transmission side lives on. It became a part of Varian for two years and is now part of Harris Allied. Although much smaller, it is today a thriving and innovative organisation, supplying equipment to the home broadcast market and exporting world-wide."

We asked Ian if he would like to add any further comment and this is what he (modestly) says: I would like to make clear that with the exception of Industrial Television and the Cambridge station, I was an observer of the scene, making a small contribution but not responsible for these developments in any way."

Thanks Ian for sharing with us your life in television. Back to Ian for the caption to the photo shown below.

"The Photicon amateur camera is mentioned at some length so I wonder if a picture of it would add something, after all, some of the readers are cameramen. The enclosed snapshot captures the spirit of the thing – pram-wheel dolly, teenaged cameraman and ex-Army headset. The photos was taken in 1952 at the Ely sports day."



A few more words on the fate of Pye. As a company it had many divisions and after the take-over by Philips, the name lives on as brand for some badged items of hi-fi equipment. The extremely successful mobile radio division is still thriving under the name of Philips Telecom, whilst when the studio side of Pye Broadcast was wound up, some members of the team were snapped up by the Spanish broadcast equipment company Pesa, which set up its UK operations in Cambridge. Life goes on... [Editor]

THE HIPPODROME STORY

In his own inimitable way, John P. Hamilton fills in some of the background to a 'lost' programme re-found and shown last October at the 'Missing, Believed Wiped 2' presentation...

I was amazed to read in the press that a Hippodrome programme had survived to be shewn in 'Missing - Believed Wiped 2' at the National Film Theatre on October 1st. Unfortunately, I had another engagement on that day and couldn't get to the showing. But Tony Clayden did manage to get there and later rang me to confirm that, although incomplete, the programme was in black and white and, therefore, had to be one of the ten Hippodrome programmes I had directed for Rediffusion-TV in the Spring of 1966.

The reference to black-and-white is deliberate because the programmes were made in 525-line colour for America with a parallel coverage in the then standard 405-line format for domestic transmission. Perhaps you would like to hear the full story.

A dig into my personal archives has produced seven of the ten camera scripts (I'm sure the others are hiding somewhere) and some interesting bits of paper such as my 'See-at-a-glance programme contents list' which I did for the then Director of Programmes at Rediffusion, Cyril Bennett. I attach a copy of that list and my VTR Dubbing Session schedule, of which more later. There is also a photocopy of an article from the famed, award-winning house magazine of Rediffusion called *Fusion* about the show by Bill Lee, Head of Lighting, who was Lighting Director for the programmes.

The concept of a combined Circus/Variety programme was not new in 1966. In the mid-fifties a programme with the same title was originated by Associated-Rediffusion (some of the shows directed by John Phillips) which came out of ATV's Wood Green studio only because at that time A-R didn't have a studio big enough to contain the kind of acts in the show - animals and high-wire platforms and all the other circus paraphernalia. In 1966, of course, we had Studio Five, then the largest studio in Europe, on the Wembley site.

The programmes were produced in association with an American organisation called Van Bernard Productions Ltd. for whom the Producer was a guy called Joseph Cates. Joe was an acknowledged expert on circus acts around the world. He knew everybody,-but everybody,-in that business. The series had been pre-sold to CBS in the States and Rediffusion were to get a spin-off for domestic transmission relatively cheaply by providing facilities and staff. The problem was of course, that we had not yet gone to colour on the ITV network. Hence the parallel shoot mentioned earlier.

The only facility house with colour O.B. gear at that time was Intertel with a four-camera scanner and 525-line mobile VT. I had worked with them a few years before when we transmitted the first-ever colour Derby to the US via the Early Bird satellite. It was decreed that Peter Croft would direct the CBS colour shoot and that

I would direct the black-and-white cameras via the gallery of Studio Five.

Needless to say there were many, many production meetings and planning sessions in the early part of the year as they were to be done on a weekly turn-round basis starting on 19th April. The programmes had to be fully international in flavour and with a strong American appeal through the presenters, who were all established 'stars' with equally strong connections with CBS. They were (in order of shooting, but not necessarily in transmission order): Trini Lopez, Eddie Albert, Bill Dana, Jack Carter, Woody Allen, Merv Griffin, Alan Sherman, Jimmy Dean, and Tony Randall who was to host two programmes. The guests were a selection of equally famous actors, singers and pop artistes both American and British, and the circus performers were all equally well-known throughout the world

From the setting point of view we had, of course, all the magnificent space of Studio Five with its centre door raised and into which set designer Roy Stannard fitted a wonderful three-quarters of a circle set of boxes for in-vision audience members. The main circus ring was rapidly removable and it was possible to set in a stage area for the star solo spots and pop groups. The gap in the main structure was for the cameras to shoot through, and behind the camera positions we had to allow for a large orchestra under the musical director, the great and much-missed Peter Knight. What little space was left over accommodated the Alfie Rodrigues Dancers, the three Hostesses (one of whom for three shows was the lovely Jenny Hanley), quick-change booths for some of the artistes and out-of-vision audience and hangers-on! It was a miracle of set design and production management.

Camera-wise, life was quite tricky for the guys on the floor. The Intertel colour cameras were huge long things (I think RCA) which seemed to take forever to line-up. I had four of the EMI 4½ inch Image Orthicon cameras of the full studio complement of eight (I was only allowed four because tube-hours, would you believe, were costed to the programme budget and Joe Cates was a bit stingy with the loot for our British side of the show!) But by devious means I managed to add our first hand-held vidicon to 'my' set of cameras and very effective it was, especially in the lighting gantry looking down on the trapeze acts and wire-walkers. That was one shot the Yanks didn't get in their show! Mind you, it frequently went on the blink as it was a very new toy and it didn't do to actually plot it in the camera script. I used it 'on-the-wing' when the opportunity occurred.

Another first for Sound on this was the use of the first Radio mics. It was essential that the star hosts were able to move from one position to another within this huge set for different linking positions, and anyway the Americans were used to using them back home. These mics were fairly unreliable as well and we got our share of taxis and the like intruding. Life was not easy for the technicians of all sections on this exercise, I can tell you

Because of the problems of setting in and striking cages for the animal acts and apparatus-for tumblers and trapeze artists and so on, the shows had, perchance, to be shot discontinuously. Also the Americans had many more commercial breaks than we did (we had three parts per show) so there were throws to breaks which were

irrelevant to my shoot. All this made for extremely long days of rehearsal and long recording sessions in the evenings with the audiences liable to get the fidgets. Fortunately, there was so much going on that they stayed interested and as most of the presenters came from a comedy background they kept the audience 'warm' during the inevitable breaks.

The logistics of getting all the diverse elements of this kind of show together were, I'm glad to say, the problem of Joe Cates, the producer. It embraced things such as work permits for all the foreign acts - about 80 per cent of the show - and food supplies for the animals, and RSPCA inspections and clearances etc. etc., not to mention acting as arbitrator between Peter Croft and me when our cameras got in one another's way. Mine were more mobile than his so tended to pop into his shots more than the other way round. The whole thing became a huge compromise but, after the first couple of weeks, worked fairly smoothly considering the number of hazards.

The car park behind Studio Five looked like a cross between a fairground and a gypsy encampment for the ten weeks we were in production. The Wembley Production office team were responsible for the housing, feeding (and bedding) of twelve elephants, twelve lions, six tigers, two pumas and five leopards, plus assorted dogs and trainers - not to mention the acts - Mexican, French, Spanish and German - who required facilities for cars, caravans and cages and the laying on of electricity, water and heating. What a job! But they coped with it quite admirably.

So the last show was rehearsed and recorded on Monday and Tuesday, 20th and 21st June 1966. The host was Tony Randall and the principal guest the legendary movie star George Raft. On that occasion the radio mics really came into their own as George was wired up but, during the many breaks in the action he sat in the audience area quietly reminiscing with his henchmen, and anybody else who had nothing to do, about the great days of Hollywood and the Warner Brothers, and the real mobsters he had been friendly with. It was a shame we had to break it up and get back to the business in hand. He seemed totally unaware that he was still wearing the mic but we were grateful for the entertainment. And no, nobody recorded it!

You will recall that we were about to pull off our greatest feat in sporting history by winning the World Cup of that year. As a rabid soccer addict, I had already booked my season ticket. But I had a huge mountain of bits and pieces of tape to knit together into ten programmes for transmission in the up-coming Autumn quarter. The management had already decreed that the load would be too much for our own fairly limited VT editing facilities at Wembley so we booked ATV's machinery at Foley Street, and carefully arranged all the edit sessions around the World Cup matches. I was very fortunate to get an old chum, Sid Kilbey (later a programme director at Central) as Editor.

You must remember that we were still in the 'knife and fork' era of VT editing. The tape had to be physically cut, squinted at through the telescope [this contained minute iron filings in a liquid and by placing this over the tape, you could see the pattern of the field sync pulses], and glued together. Every edit took a very long time to contrive, no matter how carefully you planned them, and you were very lucky to do

more than about four in a morning session. We completed the first two shows, which had entirely different opening titles to the American versions, of course, starting with the Rediffusion emblem and station 'ding-dong'. Director of Programmes Cyril Bennett ordered a playback to his office, which I couldn't attend, so he later rang me and said: "If my old mum is in the kitchen when this show goes on air, all she'll hear is an unfamiliar sig. tune from the sitting-room and she won't know what the hell the show is about and probably won't bother to watch it. I want you to put a voice-over on the opening titles listing all the goodies she's about to see!"

Well, Cyril was like that. Had a great sense of humour, but this time he wasn't kidding. So I booked the necessary dubbing sessions (see attached schedule) and hired David Jacobs to come and spend a week with us adding the Cast List over the already packaged titles. Back in '66 there was no other way of overlaying sound on VT other than playing back through a studio sound desk and remixing. An arduous process as each one had to be rehearsed to fit the visual opening sequences. As a punishment for messing me about I made Cyril make a decision on the transmission order, which up till then had not been decided by the programme planning committee for the network. The shows went out in the order shewn on the dubbing schedule, i.e. 8, 9, 10, 4, 5, 6, 7, 1, 2, 3. Mine was not to reason why!

Sid Kilbey and I batted on to get them all edited to meet the transmission deadline and he worked miracles on some of them by editing within acts with virtually no cutaways visually; and to accommodate the sound edits as nearly all the circus acts had the customary unrelenting musical backing and drum-rolls and things.

Then came another little bomb-shell. The General Manager, John McMillan decided to get into the act, which I suppose he was perfectly entitled to do, by arranging a playback for an eminent newspaper TV critic who was notoriously a cat lover. The gentleman was very uptight about the animal acts – of which there were many as befits a circus-type programme – and in an attempt to avoid a possible nasty review the GM asked me to try and reduce the beastly bits as much as possible.

So, back to Foley Street we went and did some more re-edits and after the first transmission of the Jimmy Dean-hosted show the memos flew in all directions and I've attached a copy of one that was typical for that period of my working life at Rediffusion. The reference to the Boy's Brigade was because they were upset that they were edited out after being billed in the *TV Times* as appearing. In those days we had to do the billings much more in advance than nowadays and there was nothing a director could do about it if something was chopped between the billing date and the transmission.

To revert to the Woody Allen show, none of us will ever forget Bubsy's Football Dogs and the Roberts Brothers' Dreaded Kangaroo. Two of the bitches were, apparently, on heat and chaos ensued at the first camera rehearsal, and Joe Cates almost decided to take the act out – which would have been a great pity, as it was probably one of the funniest things to have happened in the entire series. Much funnier than some of the comics! That kangaroo was clearly mad and behaved atrociously over the two days it was at the studios. Maybe it just didn't like Poms.

As you will see from the programme contents listing, Woody Allen's solo spot got the chop from Prog. 5 and I don't think the Orlaffs' Motor Cycle duo ever made into any of the programmes. They became an Eternal Off-Cut.

All the programmes were pretty well received, in spite of cat-loving critics, and most made the Top Twenty of the day. The CBS versions did well also and Joe Cates wrote later to tell us that they topped the Neilson Ratings frequently during the run.

This was my one and only brush with the Big Top during my directing days, and it was an experience to savour despite all the chopping and changing that went on. And the main thing was that I managed to get to all the World Cup matches with the exception of one at White City. The Final was wonderful and I even got a couple of the goals on my 8mm camera which I smuggled into Wembley Stadium under my mackintosh! And they're in colour; any offers?



Dusty Springfield

HIPPODROME

'See at a glance' Programme contents

NB. CONTRACTUAL HOLD ON THIS SHEET

OFF-CUTS

011-08

feaser
Abdul Ben Ali Troupe
Pipers Spot
Jack Carter Act

OFF-CUTS

011-00
Teaser

Link into Dusty Springfield
Polka & Hammer item from La

'HIPPODROME'

'See at a glance' - Programme contents.

NO.5.	HOST:	WOODY ALLAN	NO.6.	HOST:	MERV GRIFFIN
Libby Morris	BR.		Liza Minnelli		US
Freddie & The Dreamers	BR		Arthur Treacher		BR
Kessler Twins (Song & Dance)	GERMAN		The Three Hermans (Diablo)		GERMAN
Dubsky's Football Dogs	SWISS		Rodriguez Troupe (Bar Act)		SPANISH
Michael Allport & Jennifer (Magic)	BR		Roberts Bros Elephants		BR
Flying Armors (Trapeze)	?	US	Roberts Bros Elephants		BR
Roberts Bros Boxing			The Romford Drum & Trumpet Band		
Kangaroo	BR				
Znoller Hall Trumpeters	BR				

Hostess: Frances Dean

Hippodrome Dancers
The Peter Knight Orchestra

OFF-CUTS

Kellor Hall Spot
Orlaff's Motor Cycle Act
'Woody Allan Spot

Trumpet Band & Dancers
Flying Acrobats Trapeze (Falls)

NO.7	HOST:	ALAN SHERMAN	NO.8	HOST:	JIMMY DEAN
Linda Bennett		US	Anita Gillette		US
The Zombies		BR	The Joystings		BR
Bouglione's Tigers		HOLLAND	Hugh Forgie & Company (Badminton Act)		CANADIAN
The Herculaneums (Tumblers)		BR	Benneweis Mixed Animals		GERMAN
Alma Paiai (Solo Trapeze)		FRENCH	Diana Shelton		US
Tagora & Partner (Fire-eater)		AUSTRIAN	(Baton Juggler)		
Moni the Elephant		GERMAN	The Flying Leotaris (Trapeze Act)		US
Band of the Grenadier Guards			Boys Brigade Band		
Alan Sherman Spot		US	Jimmy Dean Medley Spot		US
<u>Hostess:</u>	Frances Dean		<u>Hostess:</u>	Frances Deann	
Hippodrome Dancers			Hippodrome Dancers		
The Peter Knight Orchestra			The Peter Knight Orchestra		
<u>OFF-CUTS</u>			<u>OFF-CUTS</u>		
Teaser			Teaser		
The Three Ghezzis (Clowns)			Boys Brigade Band Spot		
Alan Sherman's 'Hello Mudder'			Edits on 'Forgie'; 'Tigers'; and Trapeze Act.		

'HIPPODROME'

'See at a glance' - Programme Contents

NO.9	HOST:	TONY RANDALL	NO.10	HOST:	TONY RANDALL
Shari Lewis Searchers	US	George Raft	US	Libby Morris	BR
Bailey Fossett's Elephants	BR	Harold Alzanas (High Wire)	BR	David Berglas (Magic Act)	BR
Feller Bros & Dodo (High Wire)	BR	Lounsbury Sisters	US	(Baton Duo)	
Nicelle & Michael (Trapeze Duo)	BR	Five Orlanders (Tumblers)	BR	Markworth & Mayana (Bow & Arrow Act)	US
Malika & Mills (Magic)	FRENCH	Dagenham Girl Pipers	BR		
Derrick Alzanas (High Wire)	BR				
Band of the Royal Marines	BR				
<u>Hostess:</u> Frances Dean		<u>Hostess:</u> Frances Dean			
Hippodrome Dancers		Hippodrome Dancers			
The Peter Knight Orchestra		The Peter Knight Orchestra			
<u>OFF-CUTS</u>		<u>OFF-CUTS.</u>			
Teaser.		Teaser.			
Band Spot		Pipers Spot			
Samson & Delilah.		Paul and Barry Ryan.			
Randall & Fire Lady.		Polar Bears			
Opening Parade.		Randall & June Merlin.			
		Hippodrome dancers spot.			
-0-					

HIPPED ROME (Blacket and White) VTR DUBBING SESSION SCHEDULE

Rec.	Host:	Trsp. No.	Recording Date	Studio	Take	Editor R/T	Total R/T	Tix Rate	Ramars
6	JIMMY DEAN	W 3504	7/25/65 July	1	1430 1730	P1=	P1=		
7	TONY RANDALL	W 3522	WEDS 6PM JULY 9/23	2	1430 1730	P2=	P2=		
10	TONY RANDALL	W 3531	THURS 7PM JULY 10/67	1	1430 1730	P4=	P4=		
4	JIMIE CARRETT	W 3658	MONDAY 11AM JULY 8/91	4	1030 1330	P1=	P1=		
5	WOODY ALLEN	W 3665	MONDAY 11A JULY 7/64	4	1430 1730	P2=	P2=		
6	MERV CRIFIN	W 3486	THURS 14A JULY 5/94	4	1030 1330	P1=	P1=		
7	ALAN SHERMAN	W 3495	MONDAY 15TH JULY 6/22	1	1030 1330	P2=	P2=		
1	TRINI LOPEZ	W 3426	MONDAY 15TH JULY 4/34	1	1430 1730	P3=	P3=		
2	CDDIE ALBERT	W 3137	WEDS 5PM JULY 5/64	TR. B.A.		P1=	P2=		
7	BILL DANA	W 3446	FRI A. 9/4-6	TR. B.A.		P1=	P2=		

Director of Programmes.

24th November,

66.

John P. Hamilton.

Attached papers (and other things)

This edition of 'Hippodrome' ran to 62' 00" of recorded material. To reduce to our slot time of 46'45" two complete acts were edited out namely:- THE BENEWEIS ANIMALS (at the G.M's request), and the ORLAFF'S motor cycle duo in addition to the Boys Brigade spot. This latter was utterly awful (although I realise you may not want to say so to Mr. Edbrooke), - out of ~~the~~ bugles and crude marching about the ring, Even Joe Cates admitted they were a mistake, and I doubt whether he left them in the colour tapes, although I am not certain of that fact. Edits for time also necessitated cuts in the Hugh Forgie Badminton act and the Flying Leotaris trapeze act.

The Boys Brigade were left in the Billing because they did appear in the opening Parade and the Artistes Finale. I'm sorry they were so disappointed, but what else can one do when (mainly) time is the enemy?

Other things.

As you're hard to get at, may I just mention two things.

(1) How about an edited edition of David Jacobs' "Words & Music" taking the 'best of' from all thirteen shows, with new linking by David as a MONTREUX entry?

(2) For the New Year - a "David Jacobs BAND SHOW" using the JOHNNY HOWARD BAND (from SOUND RADIO's "EASY BEAT" which is so popular that in the New Year it goes to 1½ hrs 'live' on Sunday mornings), together with a small dance team, and featured guests. Could be presented in much the same way as the 1956 "Downbeats" that we originated. Its so ~~sad~~, it would be new.

John F. Hamilton
Programme Director.

Fantare for the technical magician

The production of the 'Hippodrome' series in colour for the American network created quite a few problems for the technicians involved. This article by Bill Lee, head of lighting, indicates some of them as well as touching on the humorous aspect. He and Michael Yates, head of design, visited the CBS television studios in Hollywood to see and talk about colour television before starting work on the series. They also watched TV filming at the CBS Film City and Desilu Studios. Later Pam Elliott, make-up, and Ernest Hewitt, costume design, also visited Hollywood.

It started with an apparently theoretical question: 'If a cylinder 60 feet in diameter and 35 feet high is placed in Studio 5, what power and equipment would be required to produce an intensity of 500 foot candles throughout the whole area when viewed through an angle of 45 degrees?'

It was phrased somewhat differently of course. 'What about "Hippodrome" in colour?' sounded like one of those macabre, modern sick jokes. It was less of a joke when estimates were required immediately if not sooner; and nobody had any sense of humour left when the quantities and cost of power, cables, lamps, etc. were calculated.

For a film studio, the problems were basic; they are geared for such magnitudes of lighting and there is abundant time available for set construction, rigging and dismantling. The sets and lights would be installed and left until the series of programmes were completed. But Studio 5 was required for normal productions between the weekly 'Hippodrome' shows and its features as a fast-turnaround studio lit with relatively light-weight units could not be altered.

These problems were resolved by the installation of a special heavy-duty rig suspended on steel bars and scaffolding with 300 kilowatt cables feeding the lamps from mobile generators, while the normal lighting rig operates beneath the heavy-duty lamps on productions other than 'Hippodrome'. The set was designed and constructed in separate modules with attached wheels, to enable mobility between storage and studio. When linked together it forms a continuous setting some 120 feet long and 23 feet high. This simple explanation gives no indication of the vast amount of organisation and work involved in mounting the show, and many sections at Wembley were called upon to carry this out in addition to their normal duties. An extremely complicated talkback system was evolved; scaffolders worked during the nights after studios were cleared of productions; orders were placed for literally thousands of electric light bulbs of various sizes



Animals, girls, clowns... the basic ingredients of a circus.

Top: Capt. S. Howes rehearses a roar.

Centre: Alfred Rodrigues, choreographer, rehearses the Hippogirls.

Bottom: The Charbris Trio rehearse their looks.

Far right: Nancy Sinatra



from 15 to 10,000 watts, together with large quantities of arc carbons, coloured gelatine, cables and light units. The equipment flooded in and hastily made-over storage was converted from an erstwhile car park. Carpenters, stagehands and setting staff worked long hours fitting the huge jigsaws together for the first time. For the electrical section, a tremendous effort was required, and both studio and maintenance staff met the challenge admirably. In the lighting section, lamp measurements, colour temperature checks and extensive debate on angles and intensities occupied much time and thought. The design section had problems of construction, of paint and of fabric colours to solve.

Interspersed with this were the colour tests with the Intertel unit, whose staff operate and maintain the electronic colour equipment, and are responsible for the matching and colour control of the pictures. 'A Swinging Scene' was recorded in both black and white and colour and further tests were carried out subsequently to familiarise personnel with the equipment. There are many tales to tell of these first liaisons with the mobile colour equipment, but others must write of them.

There is not a satisfactory method of converting colour on 525 lines (America) to black and white on 405 lines (British). 'Hippodrome' is, therefore, being shot with colour and black and white cameras operating side by side. The circus format allows for this type of shooting, so considerable co-operation is necessary between the operating camera crews if 'b-sit' programmes are to be successful. The black and white cameras are heavily filtered to reduce the light intensity to their normal levels. It is a measure of the skill and flexibility of the staff at Wembley, that 'Hippodrome' has now been absorbed into our schedules as part of the normal programming; it is no longer a 'special spectacular'.

Impressions

Roy Stannard trying to talk the John Lewis Store into parting with more than the regulation 3 in. by 2 in. curtain patterns; Monitor pictures of green faces; Bob Burns and John Halpin looking like small transmitting stations with their mobile radio talkback; Monitor pictures of red faces; Pat Benson drawing 40 foot circles with chalk and a piece of string; Monitor pictures of blue faces; Len Lurcuck's strangely arty picture which turned out to be due to a faulty viewfinder; The colour girl's many coloured faces.

The nightmares George Sherman must have had of talkbacks from A to B to C who must hear M but must not hear L all the way through; X-Y-Z; Monitor pictures of colour bars; Bernie Finch's hot line to Mole Richardson, Ltd.; The speedy work of Eric Vast and George Fitzhugh when our light-meters were found to record only half the required intensity; Monitor pictures of red, green and blue faces.

And finally, Knobby Phillip's good humour on having his leg well and truly pulled. Having burnt arcs for many years, he had the misfortune to have the carbons break shortly after the 'Star' commenced singing. The spluttering note was too much for the star - recording stopped and the pianist asked Knobby to play E-flat. The compère (speedily primed by the electricians) drew a round of applause from the audience 'for Lord Knobby who would next play "I took my axe to a party but nobody asked me to sing!"'

Trim Lopez and Dave Clark

HIPPODROME MEMORIES – AND MORE

Denis Gifford

Hippodrome Show: Tony Hawes was my original script-writing partner – our biggest hit (!!) was the last three shows of 'Running Wild' with Eric & Ernie. But nobody reviewed them as the series had been so roundly trounced by the press. We did the last three which were half-hour stories rather than short sketches as hitherto. Our best co-starred TOD SLAUGHTER as the guest in a horror send-up we originally wrote for Boris Karloff who couldn't make it. Busy with 'Colonel March of Scotland Yard' I expect.

Anyway, Tony as a solo writer contributed the odd joke and used to shout intros to shows like 'It's Sunday Night at the London Palladium'. etc etc. He worked on 'Hippodrome' and was amazed on his visit here to actually see one he worked on at the NFT that afternoon! Incredible. He's the only one in the world left, I think, who could explain the two separate directors named, one English who did it in B/W, one Yank who did it in colour, for US transmission only. Extraordinary thing! You can add this to your article, but rewrite it. *No need, Denis, it all makes sense [I think!] [Editor].*

Now, I found the enclosed researching my non-fiction catalogue of British films and I think it will be of interest if published exactly as is, with this explanation.

The Cinematograph Exhibitors Association (CEA) published a weekly magazine for their members only, entitled *Film Report*. This is extremely hard to find but I have assembled a broken run from the late 1930s to the 1960s. Apart from reviewing and marking with points virtually all features and shorts available each week as new releases, this magazine also ran the odd information item, such as lists of current Central Office of Information shorts (during the war, Ministry of Information) and so on.

During the early years of television, the CEA made a resolution to ban all movies from (BBC) television, which led to FIDO (Film Industry Defence Organisation) which paid distributors to junk, destroy or otherwise prevent their films becoming available to television. A levy on cinema seat prices formed a fund for this incredible operation, and minor distributors like New Realm, Equity British, and so on made small fortunes out of this, what I can only term, racket. They did not even have to prove their films existed!

To prevent films which were no longer under contract from being inadvertently booked for cinema showing, and which had been shown on (or sold to) TV, *Film Report* also published the occasional list of films which had been sold to BBC by hands unknown. In 1953 they published this complete roundup of films covering 18 months' showings, alphabeticalising them for convenience of reference, but eliminating the show dates, unfortunately for interested researchers. However, this is a start for anyone who wants to make an investigation. Earlier showings of films on TV were heralded separately, and I shall try to list these for next time.

Cumulative List of Televised Films

January, 1952 to June, 1953.

After each title are given particulars of the date and renter concerned when the film was originally issued, followed by details of re-issue, if any.

FEATURE FILMS

Title	Date of issue and last known renter
"ADVENTURES OF REX AND RINTY."	Issued, as a serial, in 1936 by A.B.F.D.; rights now expired. Film Report No. 905.
"AMAZON AWAKES."	Date of issue and renter untraced.
"ARIZONA DAYS."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 937.
"ARIZONA STAGECOACH."	Issued in 1947 by Ealing. Film Report No. 1459.
"BELLE ET LA BETE, LA."	Issued in 1947 by British Lion; rights now expired. Film Report No. 1493.
"BORDER VIGILANTES."	Issued in 1941 by Paramount, who state they have no interest in the T.V. rights. Film Report No. 1177.
"CARYL OF THE MOUNTAINS."	Date of issue and renter untraced.
"CONNORS CASE, THE."	Trade-shows in 1949 by United Artists. Film Report No. 1550.
"CRUSHING THRU!"	Issued in 1940 by A.B.F.D.; rights now expired. Film Report No. 1105.
"DANGER AHEAD."	Issued in 1940 by A.B.F.D.; rights now expired. Film Report No. 1131.
"DANGEROUS LADY."	Issued in 1942 by Pathé; rights now expired. Film Report No. 1191.
"DESPERATE CARGO."	Issued in 1941 by Pathé; rights now expired. Film Report No. 1180.
"DOOMED CARAVAN, THE."	Re-issued in 1949 by Renown; rights now expired. Film Report No. 1569.
"DOUBLE CROSS."	Issued in 1941 by Paramount; rights now expired. Film Report No. 1155.
"DOUBLE TRAIL"	Issued in 1941 by Pathé; rights now expired. Film Report No. 1180.
"EMERGENCY LANDING."	Issued in 1941 by Pathé; rights now expired. Film Report No. 1165.
"END OF THE TRAIL."	Date of issue and renter untraced.
"FACE AT THE WINDOW, THE."	Issued in 1939 by British Lion; rights now expired. Film Report No. 1049.
"FEDERAL FUGITIVES."	Issued in 1941 by Pathé; rights now expired. Film Report No. 1160.
"FIGHTING MAD."	Issued in 1940 by A.B.F.D.; rights now expired. Film Report No. 1092.
"FRONTIER TOWN."	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 1024.
"FRONTIERSMAN, THE."	Issued in 1939 by Paramount, who state they have no interest in the T.V. rights. Film Report No. 1055.

Title

	<u>Date of issue and last known renter</u>
"GANGS INCORPORATED."	Issued in 1941 under the title of "Paper Bullets" by Pathé; rights now expired. Film Report No. 1174.
	Re-issued in 1947 by Renown as "Gangs Incorporated"; rights now expired. Film Report No. 1485.
"GIRLS' TOWN."	Issued in 1942 by Pathé; rights now expired. Film Report No. 1216.
"GOING GAY."	Issued in 1933 by Stirling. Film Report No. 757.
"HATS OFF."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 932.
"HEADIN' FOR THE RIO GRANDE."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 960.
"HELD FOR RANSOM."	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 1018.
"HERE'S FLASH CASEY."	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 994.
	Re-issued by International, who state they handle 35 mm. rights only. Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 1011.
"HITTIN' THE TRAIL."	Issued in 1942 by Pathé; rights now expired. Film Report No. 1224.
"HOUSE OF ERRORS."	Re-issued in 1949 by Renown; rights now expired. Film Report No. 1616.
"IN OLD COLORADO."	Issued in 1941 by Paramount, who state they have no interest in the T.V. rights. Film Report No. 1162.
"INSIDE THE LAW."	Issued in 1942 by Pathé; rights now expired. Film Report No. 1228.
"INTERNATIONAL CRIME."	Re-issued in 1950 by Renown; rights now expired. Film Report No. 1616.
	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 1006.
"JACK LONDON."	Re-issued by International, who state they handle 35 mm. rights only. Issued in 1944 by United Artists; rights now expired. Film Report No. 1301.
"LAST JOURNEY, THE."	Issued in 1935 by Twickenham. Film Report No. 866.
"LAW OF THE TIMBER."	Issued in 1942 by Pathé; rights now expired. Film Report No. 1209.
"LITTLE MEN."	Issued in 1941 by RKO Radio; rights now expired. Film Report No. 1113.
"MR. BOGGS STEPS OUT."	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 985.
	Re-issued by International, who state they handle 35 mm. rights only. Issued in 1941 by A.B.F.D.; rights now expired. Film Report No. 1161.
"MURDER ON THE YUKON."	Issued in 1944 by G.F.D.; rights now expired. G.F.D. state they have no interest in T.V. rights. Film Report No. 1300.
"ON APPROVAL."	Issued in 1936 by M.-G.-M.; who state they have no interest in the T.V. rights. Film Report No. 914.
"OUR RELATIONS."	Date of issue and renter untraced. Issued in 1947 by New Realm. Film Report No. 1496.
	Issued in 1941 by Paramount; rights now expired. Film Report No. 1174.
"PARDON US."	Issued in 1942 by Paramount; rights now expired. Film Report No. 1190.
"PINTO RANCH."	Date of issue and renter untraced. Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 994.
"PIONEERS, THE."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 968.
"PIRATES ON HORSEBACK."	Issued in 1941 by United Artists; rights now expired. Film Report No. 1150.
"RAIDERS OF THE TIMBERLINE"	Re-issued in 1951 by Grand National, who state they have no interest in the T.V. rights. Film Report No. 1658.
"RANCH IN ARIZONA."	Issued in 1940 by United Artists; rights now expired. Film Report No. 1166.
"RENFREW OF THE ROYAL MOUNTED."	Re-issued in 1944 by Renown; rights now expired. Issued in 1941 by Pathé; rights now expired. Film Reports Nos. 1151/2.
"RIDERS OF THE ROCKIES."	Re-issued in 1947 by Renown; rights now expired. Film Report No. 1461.
"ROAD SHOW."	Issued in 1942 by Paramount; rights now expired. Film Report No. 1187.
	Issued in 1938 by M.-G.-M.; rights now expired. Film Report No. 958.
"SAPS AT SEA."	
"SECRET EVIDENCE."	
"SECRETS OF THE WASTELAND."	
"SEXTON BLAKE AND THE HOODED TERROR."	

<u>Title</u>	<u>Date of issue and last known renter</u>
"SHADOW STRIKES, THE."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 971.
"SHOWDOWN, THE."	Issued in 1940 by Paramount, who state they have no interest in the T.V. rights.
"SILVER TRAIL."	Film Report No. 1108.
"SING, COWBOY, SING."	Issued in 1938 by Ambassador; rights now expired. Film Report No. 994.
"SKY BANDITS."	Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 985.
"SMALL TOWN BOY."	Issued in 1942 by A.B.F.D.; rights now expired. Film Report No. 1199.
"SOMETHING TO SING ABOUT."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 970.
"SPURS IN THE SADDLE."	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 976.
"STORM IN A TEACUP."	Re-issued in 1942 by Anglo-American; rights now expired. Film Report No. 1234.
"STORMIN' THE RANGE."	Second re-issue in 1947 by International, who state they handle 35 mm. rights only. Date of issue and renter untraced.
"SWING IT, SAILOR."	Issued in 1937 by United Artists; rights now expired. Film Report No. 950.
"SWISS HONEYMOON."	Re-issued in 1943 by Anglo-American; rights now expired. Film Report No. 1251.
"SWISS MISS."	Date of issue and renter untraced. Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 988.
"TEX RIDES WITH THE BOY SCOUTS."	Re-issued by International, who state they handle 35 mm. rights only. Issued in 1947 by New Realm; rights now expired. Film Report No. 1487.
"TOPPER TAKES A TRIP."	Issued in 1938 by M.G.M., who have 35 mm. rights only. It is understood that Hal Reach has dealt with 16 mm. and T.V. rights separately, in which we are informed M.G.M. have no interest. Issued in 1938 by A.B.F.D.; rights now expired. Film Report No. 994.
"TROUBLE IN TEXAS."	Issued in 1939 by United Artists; rights now expired. Film Report No. 1040.
"TWILIGHT ON THE TRAIL."	Re-issued in 1943 and again in 1949, on both occasions by Renown; rights now expired. Film Report Nos. 1271 and 1569.
"WALLABY JIM OF THE ISLANDS."	Issued in 1939 by A.B.F.D.; rights now expired. Film Report No. 1042.
"WEDNESDAY'S LUCK."	Issued in 1942 by Paramount, who state they have no interest in the T.V. rights. Film Report No. 1195.
"WHICH WILL YE HAVE?"	Issued in 1937 by A.B.F.D.; rights now expired. Film Report No. 979.
"ENGLISH CRIMINAL JUSTICE."	Re-issued by International, who state they handle 35 mm. rights only. Issued in 1936 by Paramount; rights now expired. Film Report No. 898.
"GARDEN OF THE EAST."	Issued in 1949 by G.F.D.
"INSTRUMENTS OF THE ORCHESTRA."	
"LET'S TALK ABOUT THE NOSE."	

SHORT FILMS

Issued in 1946 by M.G.M.; rights now expired.
Issued in 1947 by New Realm.
Issued in 1946 by M.G.M.; rights now expired.
Issued in 1951 by Archway.

The HMV 902, the audio-visual centre of the 1930s

Jürgen Valter

The year is 1937. Since the 2nd November 1936 a regular high-definition television programme has been transmitted, alternatively in the Baird system (240 lines, 25 frames/second) and in the Marconi-EMI system (405 lines, 50 frames/second interlaced).

At the end of January 1937 the decision was taken to use the Marconi-EMI norm only. The first fully electronic television service in the world had been launched. The last 405-Line television transmitter in London was not taken out of service until January 1985.

The Alexandra Palace television transmitter stood on the north side of London and transmitted on the VHF frequencies of 45MHz for vision and 41.5MHz for sound. The transmitter could be received well for about 30 miles around.

The 405-line system was developed by a group of outstanding engineers under the leadership of Isaac Shoenberg. Between them they developed everything necessary for an all-electronic television system, starting with the development of the picture pick-up tube (Emitron), the high vacuum picture tube (Emisscope) through to the first mass-production television receiver. These sets were sold by HMV (His Master's Voice) and Marconiphone. With the HMV 902 TV/radio/gramophone combination the HMV probably wanted to indicate the culmination of what it could produce.

The set had one serious drawback, in that its price tag of £120 was practically out of the reach of the majority of the population. Some examples: a small car cost about £100 at that time and £120 was equivalent a quarter of the outlay a family would spend to put a roof over its head. The average weekly wage was between £2 and £5.

And now for some technical details. The set is provided with an automatic record changer with direct drive. Up to eight records (10" or 12") can be played automatically one after the other. The top-of-the-range superhet radio had separate bass and treble controls, a seven-circuit receive side with RF preamplifier, equipped for the following bands: MW, LW, two SW, VHF for television sound (approx. 40-44MHz with no RF preamplifier).

Picture reception was assured by a six-stage TRF receiver, fixed-tuned on the vision transmitter frequency (45MHz). The amplifier tubes used, type MHD4, correspond more or less to the German RENS1294 type. The demodulator following has a D42 (AB2) and drives directly (without video amplifier) the cathode of the CRT. Separate amplitude filters, each equipped with a MSP4 (RENS1294) valve, serve for line and frame synchronisation. The line and field stages are very similar, since the final line stage is not used for developing EHT.

Since the deflection of the picture tube is only about 30 degrees, the final line and field stages can employ a standard 3-watt radio valve, the N41 (AL4), which is also used in the final stage of the radio section.

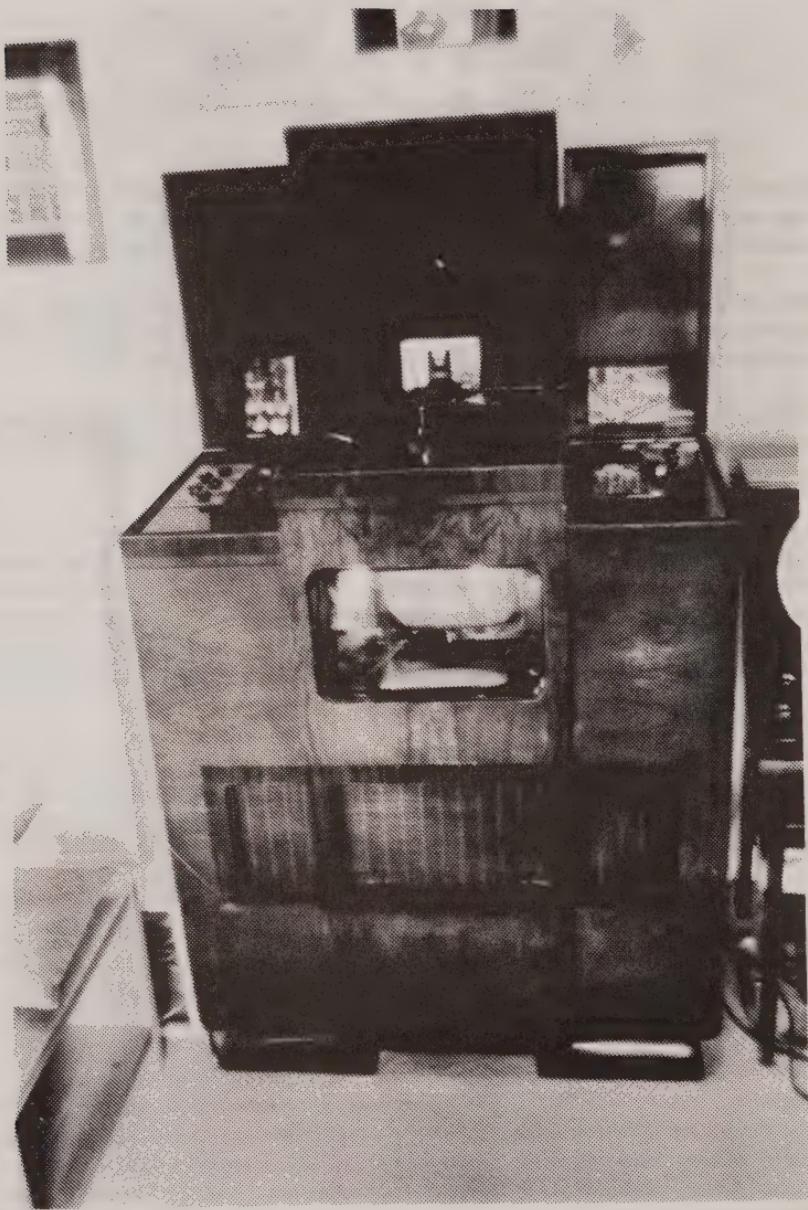


Fig. 1: The HMV 902. Despite the small screen size, the set is a massive piece of equipment by modern standards. Dimensions: 40" wide x 23" deep x 49" tall (65" with lid lifted).

The CRT has a screen diameter of just 8.5" but despite this is 26" long. It is mounted vertically. The television picture is thrown forward by a built-in mirror and enlarged by a massive 9" x 11" magnifying lens. The picture tube is a hexode (!) with magnetic deflection and electrostatic focusing. Just one year later they went over to electromagnetic focusing and it was not until the end of the 1950s that electrostatic focusing appeared again.

On the power supply chassis we find a large mains transformer which looks after the vision circuitry. The anode voltage of approx. 280 volts is rectified by a U14 (RGN2004) tube. The EHT of 5,000 volts (plus 1,000 volts focus voltage) is produced with a 50Hz mains transformer, which also supplies the heaters of the CRT and the HT rectifier tubes. The HT is smoothed by two 0.1uF capacitors.

Since the capacitors store a heavy charge and the internal resistance of the mains power supply is comparatively small, this voltage is extremely hazardous for the service technician, much more so than the higher anode voltages found on the line output transformers of modern TV sets.

Apart from the CRT and the EHT rectifier tubes (U16), the rest of the set uses standard commercial radio valves, which makes finding replacements quite easy.

The picture quality of this set is quite amazing. The TV picture distinguishes itself with good contrast, sharp contours and high picture resolution. The picture brightness achievable is admittedly a bit less than on modern sets, on account of the lower EHT voltage used. The sound quality of the TV is so good that most modern stereo colour sets could learn something from this old-timer.

Restoration of this set took many hours of work, about 250 in all. The video reception section was misaligned and had to be re-aligned from scratch. Virtually all electrolytic capacitors in the power supply and the video deflection stages were unusable and had to be replaced. A further weak point is the EHT mains transformer, which showed a shorted turn caused probably by dampness in storage. Although the picture tube had already been in use many years (at the centre of the pictures a small ion spot can be seen), there is no sign of falling off emission.

A word of explanation: The television is used in conjunction with a standard commercial VHS video recorder and a home-made modulator which produces audio and video signals on the correct 41.5MHz and 45MHz (positive modulation) frequencies. These signals are taken to the antenna connection of the TV, producing at this interface the same conditions as more than 50 years ago. Also needed for operation are a VHS video cassette with 405-line programme material.

*This article appeared first in **Funk Geschichte**, the magazine of the German Society for Radio History (GfGF) and was intended for radio enthusiasts unfamiliar with British television. Further information on this society can be had by writing to Gesellschaft der Freunde der Geschichte des Funkwesens e.V., Beim Tannenhof, D-89079 Ulm/D.10, Germany.*



Fig. 2: View of the controls. Left-hand side for setting the TV, record player in the centre and radio tuning scale and presets on the right.

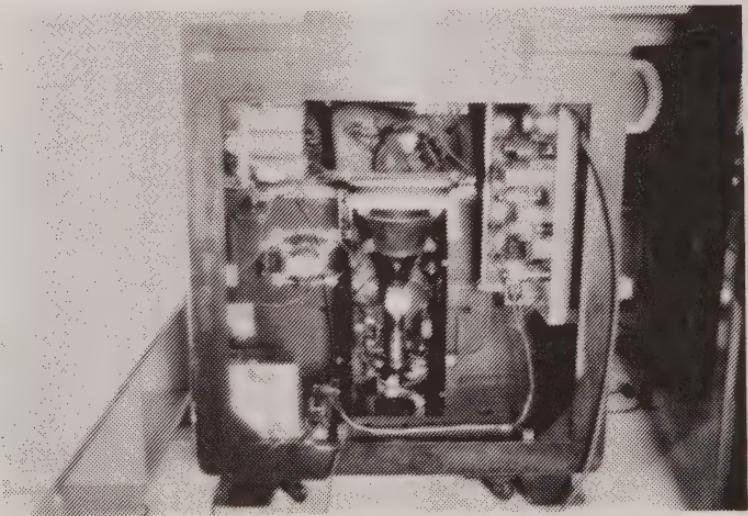


Fig. 3: View of the 'works'. The rear cover has been removed. The upper side is on the left.

TEA-TIME ADVENTURE

*Alan Keeling recalls three ITV adventure programmes
for the children of 30 years ago*

THE FLYING DOCTOR

1.	A PAIR OF EYES	21.	REPRIEVE
2.	ORDEAL BY "WILLIE-WILLIE"	22.	THE GHOST OF DARLING RIVER
3.	DECISION	23.	EAR WITNESS
4.	THE SHOCK	24.	BRAINSTORM
5.	BLOOD DONOR	25.	CRISIS
6.	WHITE SICKNESS	26.	BLACKOUT
7.	HIDEOUT	27.	THE SECRET
8.	EMERGENCY PILOT	28.	THE RETURN
9.	THE CHANGING PLAIN	29.	THE REVELATION
10.	CIRCLE IN THE BUSH	30.	THE MESSAGE
11.	DEATH IN THE CLOUDS	31.	TIME BOMB
12.	NIGHT FLIGHT	32.	STRANGER IN DISTRESS
13.	MOVING MOUNTAINS	33.	THE PRISONER
14.	RACE AGAINST TIME	34.	WOMAN HUNT
15.	MODEL MARRIAGE	35.	THE CHOICE
16.	RUNWAY	36.	CONSPIRACY
17.	WRONG MEDICINE	37.	THE SOUND OF THE SEA
18.	DECEPTION	38.	A CALL TO LONDON
19.	BOOMERANG	39.	THE MISSILE
20.	THE RIDDLE		

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The Adventures of a **JUNGLE BOY**



Take a thirteen-year-old white boy and a cheetah, the fastest living creature on four legs, and turn them loose in the African Bush. Let them play together, work together, and become involved in the day-to-day problems of survival in the Jungle.

The very idea is fantastic! Many people would not believe that it could ever happen. Yet, this is what had to happen before Jungle Boy could be brought to television audiences. Perhaps the most extraordinary thing about this very remarkable series of thirteen half-hour films is the fact that all the animal shots are genuine.

Only one boy in the world cou'd have starred in Jungle Boy - Michael Hartley. The star of this series had to be a teenage white boy, with acting ability and outstanding personality. He must know East Africa, its people and its customs. But above all, he must know how to gain the confidence and respect of all animals - from pythons to

elephants - and work with them without fear.

Michael has these outstanding qualifications. The other star of the series is 'Cheetah', the devoted friend of 'Jungle Boy'. Without them both, this amazing series could not possibly have been made. Michael Hartley is the son of a famous animal-handler. He learned from babyhood to gain the confidence of all wild creatures. Viewers will look in vain for 'tricks' as Michael plays safely with animals normally considered dangerous. There are no such 'tricks' because Michael enjoys the complete trust of his animal friends.

Jungle Boy is quite unspoiled by any 'trick shots'. All its scenes are real and have been filmed on the spot in East Africa. There has never been a series like it before. It is doubtful whether there will ever be a series like it again. A bold claim, but once you have seen Jungle Boy you will know it to be true.

THE ADVENTURES OF JUNGLE BOY

EPISODES

1 Kidnapped

Jungle Boy, Cheetah and Ninga, the chimp, meet two armed white bandits on the run. One of them is wounded and Jungle Boy fetches a doctor, who tells him to get the police. When the doctor is made a prisoner, Jungle Boy retaliates by laying a false trail.

2 Runaway Boy

Jungle Boy befriends Eddie, a fifteen-year-old boy who has run away from Reform School. After being saved from the crocodiles by Jungle Boy, Eddie promises to give himself up and mend his ways.

3 The Ways of a Witch Doctor

A woman is overcome by a form of paralysis. Jungle Boy knows a witch doctor who has cured this paralysis and succeeds in persuading him to make the medicine.

4 The Burial Ground

Jungle Boy and Cheetah meet an archaeologist and his white guide excavating an ancient burial ground, sacred to the Saburis, who threaten to attack. The police arrive just in time to prevent further bloodshed.

5 Jungle Boy and the Diamonds

Jungle Boy and Cheetah are out fishing when they meet a prospector, who sees a diamond in the river. The prospector robs him, but is bitten by a snake while escaping. Jungle Boy nurses him back to health, then gives him a diamond in exchange for a geiger-counter.

6 Doctor's Dilemma

Alan Manley and his daughter Florence are returning to England when Troy, his foreman, attacks him in a jealous rage. Jungle Boy tracks a doctor's jeep to the scene and intervenes when Troy tries to carry off the daughter.

7 Young Love

Jungle Boy is asked to take Ellen, young Dr. Keven's assistant, on a trip, falls in love with her and becomes

jealous of Dr. Keven. Dr. Keven is lost for two days. Jungle Boy saves his life and learns the lesson of true love.

8 Boy and The Reverend

The Rev. Andrew Vardon - a missionary - is stranded in bush country and is found by Jungle Boy. A native warrior captures them. While Vardon is held as a hostage, Jungle Boy sets out to find a white doctor who will save the native Chief's life.

9 The Doctor Man

Jungle Boy discovers that Babu, the chimp's baby, is very ill and collects medicinal plants. But Babu's condition does not improve. Jungle Boy is puzzled but the crisis passes and Babu recovers.

10 Adoption Story

The Health Authorities tour the country, checking on a fever epidemic. Cheetah instinctively refuses to drink from one pool and proves it to be a breeding ground for the germs.

11 Child by the River

Jungle Boy and Cheetah find a crying baby in a basket. After ensuring the baby's safety, they elude the trap set for them, rescue the father and reunite the family.

12 Journey Up River

The doctor is called to attend to Mrs. Kerr, wife of a bush farmer, about to have a baby. Her husband is missing, held prisoner by two men who think there are diamonds on his land. Jungle Boy and Cheetah save the day in time to hear the baby's first cries.

13 Jungle Boy

Jungle Boy is in his tree-top home with Cheetah when he sees hunters approaching. After an amazing demonstration by Jungle Boy of his familiarity with animals, the hunters retire empty-handed.

13 HALF-HOUR EPISODES



God collected an assortment of soldiers, sailors, and citizens, who, though they had no personal knowledge of the case, were willing to do their duty. The trial was conducted with great interest, and the result is a real trial, in that it has been conducted before a public audience, and has given pleasure to all.



**26 HALF HOUR
FILMS FOR
TELEVISION OF
EXCITING OUTDOOR
ADVENTURE**

BEHIND THE CAMERAS

In the first of a series, Dicky Howett traces the operational history of various items of broadcast television hardware. To begin, he looks at the ubiquitous Image Orthicon camera of the 1960s, the EMI 203.

The development of any new television camera system is complex. Old and grizzled tv engineers will tell you that back in the pioneer pre-war days, every viable technical idea was an innovation. Simply getting any sort of television picture was a daily slog and keeping it on the screen, a bloody miracle!

After the war, due in large part to American developments, high velocity iconoscope camera pick-up tubes became outmoded in favour of the more sensitive, (and controllable), low velocity orthicons.

Although the BBC, during the 'austere' late 1940s and early 1950s, was under a severe Government capital expenditure restraint, it continued to promote new designs of camera. This benefited the British electronics industry who wanted to stay at least within a spit of the cutting edge. The industry didn't much relish being squeezed technologically by the USA. There were too many lucrative export deals on the horizon, especially sales to the emerging 'television' countries.

Eventually new designs of camera were ordered by the BBC, who circulated amongst manufacturers (principally EMI, Marconi and Pye) weighty 'specifications' detailing what they would most like to see in a new camera channel. These specs covered generally, everything from electronic parameters, down to the exact size of focus handle and even the preferred colour of the casing paint.

The first of the new 'breed' of British post-war Orthicon camera was the EMI CPS Emitron, three of which were delivered to OBs in 1947 to cover the wedding of the Queen. Later, these three cameras were installed at the Empire Pool Wembley for the 1948 Olympic Games. After more outside broadcast work, this trio of CPS Emitrons migrated to the refurbished-for-television Lime Grove, equipping Studio D when it opened in 1950.

Despite the BBC's stringent (and some would say peculiar) technical stipulations, manufacturers always had the tricky task of both complying with the BBC's needs and ensuring the end product was saleable on the world market. (It was always thought that a solely-BBC design of camera would never travel much beyond Dover). Later as it turned out, a new EMI camera (called the 203) was based very closely on BBC requirements.

Historically, it was towards the late nineteen fifties, that the BBC began looking for a new camera to equip its modern Television Centre; soon to be opened at Wood Lane in West London. Also, the BBC needed replacements for its Lime Grove studio camera

stock. At the time, (1957 or so) these Lime Grove cameras consisted of Marconi Mk. IIIs and EMI CPS Emitron 10764s. Although both these cameras gave very good pictures, they had the disadvantage of non-interchangeable tubes, and non-interchangeable just about everything else! This lack of standardisation resulted in tedious and not very cost-effective BBC maintenance problems.

The two camera types referred to above were (in 1957) not particularly old, but they were very bulky and inflexible, needing a lot of careful handling. What the BBC (and indeed commercial television) required for the swinging 1960s was a new breed of 'hands-off' slim-line image orthicon camera that could run 405, 525 and importantly (with BBC2 and colour on the horizon), 625 line standards.

A new camera specification was issued, and immediately a contest developed between EMI and Marconi to get the first camera out on test. Eventually, by a few months, (October 1958) Marconi won the race. It installed a prototype model of its Mk. IV camera in the BBC's 'experimental' Riverside Studios at Hammersmith. (Because these new cameras were closely based on BBC thinking, both the EMI 203 and the Marconi Mk. 4 looked superficially similar. Apart from subtle design differences, in concept they were actually the same style of 4½ inch image orthicon four-lens turret camera).

Back at Hayes, the undaunted EMI 203 design team (headed by F.R. Trott and G.E. Harden-Pigg, with Alan Butcher as development engineer) pressed ahead with their plans. An early version of the 203 was designed to accept not only a 4½ inch image orthicon picture tube, but also a 3 inch tube and even the outdated CPS Emitron tube! Eventually the design settled down to produce a 4½ inch image orthicon camera channel (adaptable to 3 inch) of high quality.

The 203 camera had many new features including eight small plug-in printed circuit component boards (still valve driven in those days) and a novel means of fitting the image orthicon picture tube. Formally, the insertion of the tube had sometimes involved dismantling parts of cameras. The 203 camera had simply a removable plate on the lens turret through which the picture tube could be inserted into the scan-coil yolk. This removable turret plate could also (with adaptation) accommodate a dioscope or even a fifth lens (ABC and Associated-Rediffusion used notably the 203 in five-lens mode).

Lens mounts on all new cameras were now standardised to the BBC specification 'TV 88' fitting system (both the 203 and the Marconi Mk. IV could use the same lenses which included a wide range of Rank Taylor Hobson and Dallmeyer fixed focus glassware plus RTH and Evershed/Angeneux power zooms). Also standard on the 203 (and the Marconi Mk. IV) was an auto-iris facility. This had the lenses ganged by cogged teeth around the rim of the lens-mount to a central servo motor (the 'baked bean tin') fitted to the lens turret. The iris of all the lenses could then be adjusted from one sweaty knob in the control room.

Overall, the size of the 203 camera was quite compact with the chassis and side panels constructed of light alloy. The body dimensions were only 13 inches wide by 15 inches

high, the whole ensemble weighing in at about 108 lb. The camera had a body length - minus lenses - of only 2 foot. For a 4½ inch image orthicon camera this was indeed a midget machine. The welcome reduction in size and weight was helped also, by the compact design of the electronic high brightness 7" viewfinder. This was a fixed unit built into the body casing, and not - as previously with EMI and Marconi cameras - a separate large tiltable box on top of the camera. (For awkward shots it was now the cameramen and not the viewfinder that had to be tiltable!).

The first pre-production EMI 203 camera went to Lime Grove in 1959 for assessment by senior BBC engineer Don Brothers. The camera went then to Riverside Studios for a few weeks. The 203 was put in as Camera One (working beside the existing Marconi Mk. III cameras) on a production of 'Antigoni' (1960). The camera worked also on a David Nixon Magic Show and a couple of Hancock's Half Hours. After many tests 'on air', the camera was later assessed. Amongst its many good features, the 203's image depth of field was remarked favourably upon.

By early 1960 the first production models of the 203 were ready. Three camera channels were shipped off to the first purchaser, the Australian Broadcasting Commission for use in an OB van. Three more cameras were dispatched to Italy's RAI in time for the 1960 Rome Olympic Games. Back home, the London weekday Independent company, Associated-Rediffusion, installed a total of eight 203 cameras in their new giant 14,000 sq. ft EMI-equipped 'Studio Five' at Wembley.

The BBC on the other hand was slightly tardy. It waited until January 1961 before equipping TC4 (100ft x 80ft) at Television Centre with six 203s. TC4 was the second large production studio to open and it became known initially as the 'comedy' studio. Shows recorded there included, 'Hancock', 'Comedy Playhouse' and 'Til Death Us Do Part', all on 405 lines. Other productions and innovations included the 'Dr Who' special effect howl-round opening sequence, recorded with the aid of a patient 203 (plus an electric torch and engineer Joe Starie).

Much later, in 1967, TC4's 203s recorded the last major BBC monochrome drama, (bar one episode in the Marconi-equipped TC3) 'The Forsyte Saga' on 625 lines. The picture quality was superb. (When correctly lined-up and using a good picture tube, the EMI 203 was capable of resolving at least 600 lines of horizontal definition). Engineers thought arguably, that overall, the EMI 203 was technically a slightly better camera than the Marconi Mk. IV. However, cameramen preferred the easier handling and racier looks of the Marconi Mk. IV.

Back at the racks, the 203's engineering control equipment consisted of three relatively compact and well organised electronic boxes that could be conveniently stacked together for OB work.

Because of the concomitant stability of low-velocity picture tubes and circuits, the innovative BBC-designed 'one man vision control' system was now possible. A senior BBC engineer called Ben Palmer researched and devised a test slide procedure that enabled all I.O. cameras to be lined up more precisely to within half a stop and require

only about 5 per cent adjustment of lift and gain (brightness and contrast). This was a significant development, reducing the number of 'on air live' operational controls to just two (lens iris and black level). A studio's compliment of up to six cameras could now be controlled by one engineer in the vision control gallery. In practice however, there were at least two back-up engineers constantly checking settings of the pre-set pots: the beam focus etc..

The 203 camera wasn't without a few technical troubles. An early problem occurred with its German WIMA capacitors which had a habit of short circuiting at inconvenient moments. Tempers flew and so did the possibility of legal action. However, the BBC and EMI workshops replaced all the WIMAs and modifications were called for speedily. Also, the BBC was unhappy with the mechanical focus linkage which moved the image orthicon scan coil yoke in relation to the lens. This linkage created unacceptable backlash to the tube causing it to twist sideways out of line. To overcome this problem, EMI re-designed the mechanism and re-positioned the focus handle further back on the side of the camera body. The original yolk transport mechanism was then replaced on the BBC cameras (all this within a few months or so of the original installation in Studio 4) by a more robust rack and pinion device, similar to that of a microscope. (All earlier models of the 203 show the blanked-off hole – a bit of green plastic – where the original focus handle went. This 'make do and mend' policy was utilised because EMI usually didn't change the casing-pressing designs until at least 100 units had been previously run off).

Another little snag with the original 203 design was that of the camera-body cable connector. This jutted the BICC Mk. 4 cable straight out of the side of the camera, posing problems on the studio floor. This meant that manoeuvring the camera through narrow doorways, or tracking across confined sets could easily put an eye out. (Later designs used more compact right-angled connectors)

Outside the privileged confines of the BBC, the doughty 203 still had to earn its development costs. More 203 cameras were sold, some to Southern Television who shot the Canterbury enthronement of Dr Ramsey and some to ABC at Teddington who shot 'The Avengers'.

Three gleaming 203s popped up also in the Beatles' film 'A Hard Day's Night'. In one scene, the Beatles are shown on stage at a 'television theatre' (in reality, the Scala Theatre – since demolished – in Charlotte Street, London). During musical numbers with the Beatles, the three 203s are electronically live, producing many monitor shots of stunning quality. To capture these shots the 35mm movie camera's shutter speed motor was hand-adjusted to counteract monitor 'hum bars'. All the television camera and display equipment was supplied for the movie by EMI Broadcast Division. In turn, the movie ensured world-wide exposure for EMI's 203 camera system.

A story goes that the American Broadcasting Company in New York acquired a 203 for tests. They installed it in their Manhattan studio basement workshop. Unfortunately, the engineers kept losing the viewfinder picture. It flashed on and off at odd moments. At other times it was okay. Eventually the cause of the fault was traced. It was all due to the subway trains which, as they rumbled by under the basement floor,

caused cabling in an adjacent store room to 'sway', setting up a magnetic field. And the cure? To encase the 203 camera in $\frac{1}{4}$ inch steel plate. Very pretty.

In April 1964, TC1, the largest studio at BBC Television Centre (108ft x 100ft) was opened, and it was equipped with six 203s (now designated 203/6). (TC5 had opened earlier in August of 1961 with four 203/4s). TC1 was now ready for the advent of BBC2. In fact TC1 started big. The studio mounted the 1964 General Election broadcast.

As the nineteen sixties progressed, more 203 channels were sold – to TWW, RTE, CBC Vancouver, Nigerian TV. Meanwhile, nearer home at Lime Grove, the final phase of monochrome re-equipping was taking place. The production studios (D and G) were each furnished with five new 203/9s. (Studio E had been refurbished much earlier in July 1961. Studio H was converted to experimental 625 line colour). By the mid-1960s the BBC had a grand total of six London studios with thirty (give or take a few spares) EMI 203 camera channels, all whirring away busily.

The EMI 203 model ceased production in 1965. An estimated total of 400 of these camera channels were sold world-wide. Three decades later, the venerable viridian EMI 203 (now only to be found in museums or private hands) still pops up to amaze and astound. (The author is the owner of three ex-BBC 203s – in fact 1/10th of the entire BBC stock – and knows of only seven others in various states of preservation, at least in Britain).

Recently, one incomplete ex-BBC 203 camera was found in the basement of Alexandra Palace, (it is now on display there as part of an APTV exhibition). Yet another 203 turned up near Minehead at the Washford BBC radio transmitter building (now occupied by 'Tropiquaria' and the splendid 'Wireless in the West' attraction).

Several British television companies added or asked for modifications to their 203s. For example, the BBC's 203 power supply unit came in a grey (not the usual green) casing. All helpful clues along the way. (Interestingly, it is far easier to track the working life of BBC lenses. Latterly, in BBC studios they were colour coded. The practice was to paint a small colour strip on the side of each lens mount. By this simple means, kit could be kept together, or retrieved. So, if the colour code key is known, everything follows. For example, if a BBC lens was striped red, the code meant TC3, or yellow for TC4, or yellow and purple for Lime Grove G. etc.).

Tracing the working life of these ex-BBC 203 cameras is highly tortuous. It appears that most documentation, (including prototype plans) was destroyed. Written records of studio camera use were not properly kept, nor indeed much required. Camera crews tended to get on with the job, disdaining what they considered work for 'clerks'. So, little 'on the job' paperwork appears to remain. (Of course, at the time there was no historical imperative. Who would then have guessed that today Britain no longer manufactures any kind of television camera?).

During the 1970's because of the swift spread of (UK) colour television, redundant monochrome broadcast equipment migrated around the world. Several ex-BBC 203s

went to Greece. In Australia ABC took a few channels to tide themselves over before they too colourised in 1975. Third World and Eastern Bloc countries also benefited. Around Britain, Universities and Colleges acquired old BBC (and commercial television) cameras. Even public utilities such as gas, electricity and transport trained and gained by the use of broadcast-quality cast-offs. They never had it so good...

Sadly, with the total demise of monochrome television, the inevitable final 'public utility' for most of these remaining EMI 203s was the Corporation rubbish skip.

The author wishes to thank broadcast engineers Alan Butcher, Larry Coalston, Mike Gosling, Paul Kay, Vic Perry and Joe Starie for their valued information

Installation facts

BBC TELEVISION CENTRE. Below is listed the main TC production studios. This itemises the monochrome camera compliment as it was in the mid-nineteen sixties. Otherwise known as the 'Golden Age'.

TC1.EMI 203/6.

TC2. Marconi Mk.4.

TC3. Marconi Mk.4.

TC4.EMI 203/4.

TC5.EMI 203/4.

TC7. Marconi Mk.4.

(TC6 and 8 were equipped and opened in the late 1960s as exclusively colour studios)

LIME GROVE. Studios D, E and G each had 4 (and one spare) EMI 203 channel. Ultimately, Studio G wasn't colourised. It rumbled on as a monochrome training studio until the end of 1972 when it was converted into a film transfer suite.

Footnote: There were three basic varieties of EMI 203, sub-coded the Four, Six and Nine. The original Television Centre installations in TC4 and TC5 were 203/Four. TC1 had 203/Six. Lime Grove Studio E had 203/Four. Lime Grove D and G had 203/Nine.

The above information is based solely on BBC Monographs and books, extensive photo-research plus a great deal of engineer anecdotal evidence. The author will be very pleased to hear from anyone with further information, or for that matter a live 203 camera!

Those WIMA capacitors, looking like peppermint humbugs are considered 'Black Death' by engineers. Like the brown tubular Hunts capacitors, they must be stripped out of any electronic equipment and replaced with new components. In fact they

must have been among the most unreliable electronic components ever made and responsible for more wasted man-hours than any other component! [Editor].

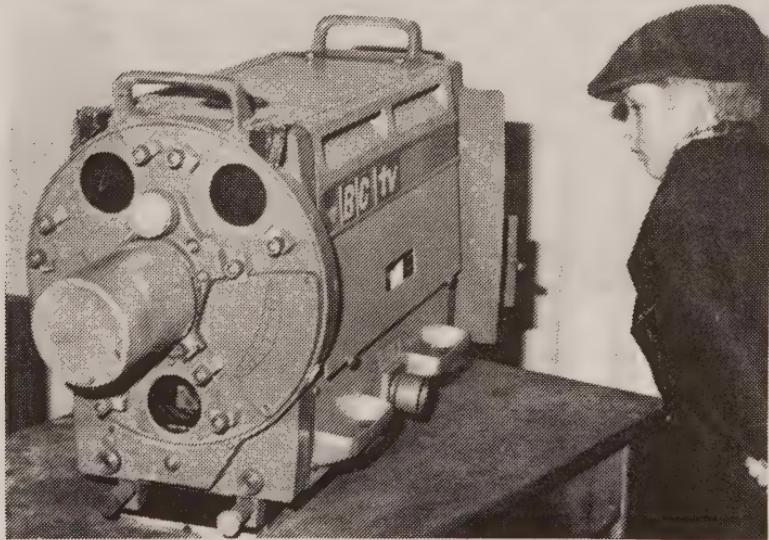
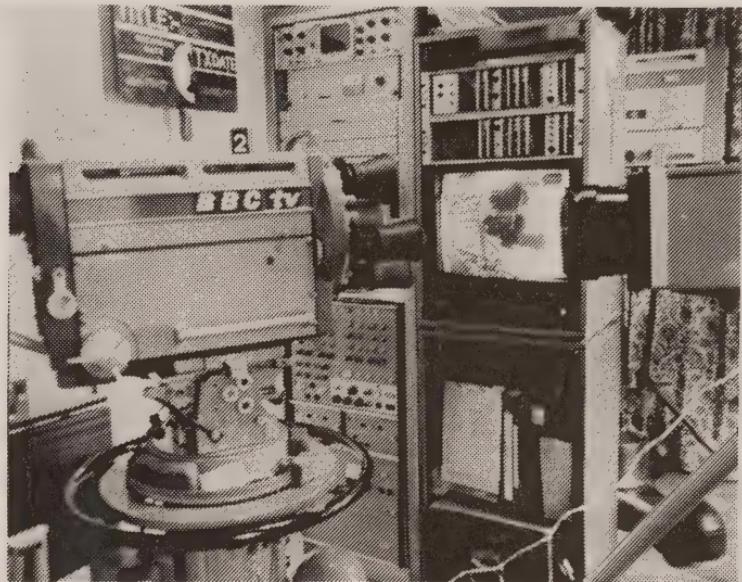


Fig. 1: An EMI 203 on TV!

Fig. 2: The EMI type 203 camera recently discovered at Alexandra Palace. It has since been cleaned and re-badged, also provided with a lens and a cue-lamp dome.



Fig. 3: Almost a studio full! Dicky Howett squeezes in amongst the 203s.

Fig. 4: 203 Focus and turret change. The original position of the focus control can be seen clearly as a blanked-off hole.

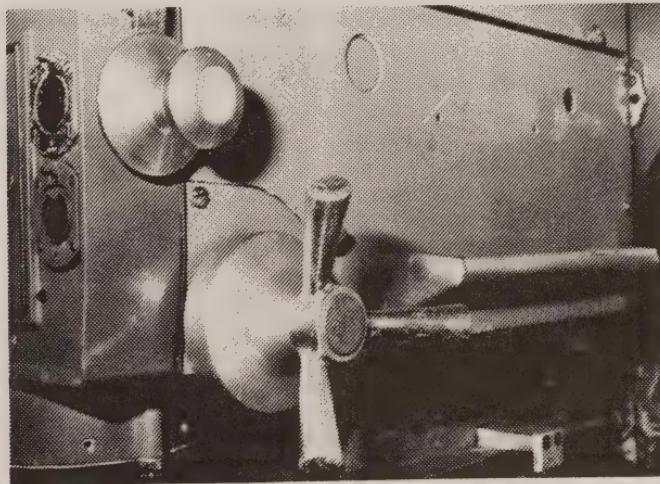


Fig. 5: The serious end of a 203. Note the central servo motor 'baked bean tin' and the jutting-out Mk. 4 cable.

 **ON THE BOOKSHELF** 

A FOR ANDROMEDA TO ZOO TIME,
THE TV HOLDINGS OF THE NATIONAL FILM & TELEVISION ARCHIVE
1936-1979.

Edited by Simon Baker and Olwin Terris.

Hardback, 188 pages, illustrated. BFI Publishing (ring 0171-255 1444 for current price). ISBN 0-85170-420-4.

The NFTVA is one of the world's largest independent archives dedicated to the preservation of national television output and this catalogue contains all the programmes in the Archive's possession at the end of July 1992. However certain parts of the Archive's collection have been excluded from this volume, notably News output, although included in this catalogue is the pre-1980 material which has been recently donated by companies such as Granada, LWT, Yorkshire and Tyne Tees – as they have dealt with the problems of obsolete 2" videotape formats.

Steve Bryant (Keeper of Television) provides a most comprehensive and informative account of the history of acquisition of television material by the Archive and an explanation of the basis of the catalogue. It is arranged alphabetically by series title and main titles (which do not form part of a series) with a brief descriptive entry for each title.

The compilers have tackled the difficult area of genre classification of television programmes. Their genre index appears to be a mixture of subjects and programme types; e.g. railways and dramas, or discussion or sitcoms; as well as reflecting other social criteria e.g., Black and Asian culture, or Consumer programmes; or reflecting modes of transmission e.g. Daytime Television or Regional News.

This book supersedes the earlier catalogue 'Keeping Television Alive – The Television Work of the National Film Archive' edited by Paul Madden, and benefits from the addition of useful extra information. However, the listing under production company, now missing from this new catalogue, was a most useful way of accessing the information in the original volume and the additional alternative titles might have been more usefully included in the main listings as 'see' references rather than as a separate listing.

Sue Malden, Manager, Broadcast Archives, BBC.

[This review appeared first in *FOCAL International*, the journal of the Federation of Commercial Audio Visual Libraries. Entries in the catalogue give, for each programme title, the TV network on which it was shown, the transmission date, a brief synopsis and where appropriate, the director, presenter, producer, leading artistes, etc.. The book, although expensive, is a must for any serious researcher.]

BRITISH TELEVISION

Compiled for the British Film Institute by Tise Vahimagi.

Paperback, 364 pages, illustrated with more than 1,100 'rare archive stills'.

Oxford University Press, £12.99. ISBN 0-19-818336-4.

Also available in hardback at £25.00

You might be tempted to ask how many more books can hope to trawl the bottomless pit of television nostalgia, but even if that is a valid question, it is no ground for criticising this book. Subtitled 'Your Guide to over 1,100 Favourite Programmes', it is a more 'accessible' (i.e. easy to dip into) read than 'A for Andromeda' but that of course is no ground for criticising 'A for Andromeda'. Oh dear, shall I start again before I appear to damn two books that I both enjoyed with faint praise?

Yes. 'British Television' is an (almost) excellent book. The price is right and it will appeal to just about everyone who enjoys old television programmes. The coverage is broad – news, drama, soaps, documentaries and comedies – but it is not comprehensive. You will not find every programme every shown on TV during the period 1936 to the early 1990s but most of them are here (together with many photographs to jog the memory). The price is right and the book makes an excellent companion to the 'A for Andromeda to Zoo Time' catalogue reviewed above. After all, a catalogue is a catalogue, whereas this book, 'British Television' is a reference book (and a very readable one as well). I wouldn't go so far as to say 'a glorious and indispensable exercise in nostalgia' as Michael Grade does in the foreword but then again, I dare say Michael Grade didn't go looking for mistakes.

The presentation of entries is chronological, i.e. programmes are listed in the year they first appeared. Nothing wrong with that and two very detailed indexes make sure you can find any programme, presenter or actor you wish. The author does not make the mistake of wallowing in nostalgia, indeed his (her?) objective style of writing may mean that (s)he did not even grow up with many of these programmes. I don't know and the one-sentence biographical note about Tise gives away nothing of his/her background or favourite passion in life. Where this is most betrayed is in the historical introduction which (for the 1930s at least) commits many howlers, indicating it was nothing more than a mix-and-match compilation from a couple of encyclopaedias. To hell with proper research and fuddy-duddy traditions such as having new books checked by experts before publication.

Oh dear! If the author can mix decades and talk so much rubbish in this chapter, what guarantee have we for the accuracy of the rest of it? Answer: not a lot! Here we have an apparently authoritative book written for a world-renowned publisher which has not been checked by anyone with an ounce of knowledge of television history. Heck, does it matter? Not really, people will buy the book for the pretty pictures and the ones who spot the mistakes can grizzle quietly in a corner. The rest of the punters will lap it up and believe every word. Thus is history re-written!

Overall verdict: best of the bunch so far but don't believe every word. I'll be happy to publish a list of all the mistakes spotted by *405 Alive* readers. Who can spot the most?!?

Disgusted of Tunbridge Wells, well, Northampton actually.

Tv is KING.

By Michael Bennett-Levy.

Hardback, 64 pages with full-colour illustrations on nearly all pages.

ISBN 0-9521057-1-3.

Price £18 post-paid inland and £20 post-paid overseas from MBL Publications,
Monkton House, Old Craighall, Musselburgh, Midlothian, EH21 8SF.

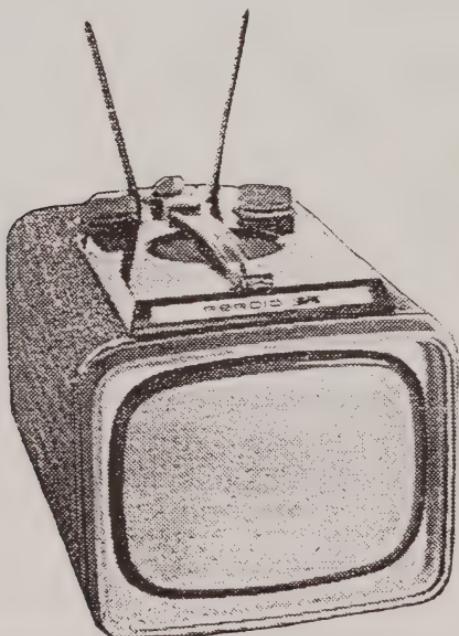
At last, a book that I can recommend unreservedly!

If you liked Michael's first book, you'll like this one even more. And yes, I did like it! In short it's an absolute feast of top quality colour photos (and I do mean top quality) of tasty television sets, printed and laid out very attractively. As well as Tvs, there are a few milestone video recorders, a broadcast camera and (no, I couldn't let it pass), the usual spelling mistakes that a basic spelling checker would have picked out. That said, this magazine is not without blemish in that respect so I have no right to snigger.

In short it's a delightful book, uncontentious and should be on every enthusiast's bookshelf. Perhaps it already is.

AE.

Below: The Perdio Portarama Television – or rather, one of many.
This is the Mk I.



Perdio Portarama Three, Model PT066

8½" Dual Standard Battery/Mains Portable TV

Jonathan Hill unmasks the set 'that was never made'

On the face of it, item 701 as it appeared in the October 94 sales catalogue of early cycles, radios and televisions from Halifax Property Services at Tenterden, Kent sounded interesting – Perdio PT066 portable 9" 240/12 volt, grey leather cloth case, needs assembly".

I have always admired the Perdio company itself, for when set up in the mid-1950s, its two young directors decided boldly to specialise exclusively in the new and relatively untried technology of transistorised electronics, and were the first British company to do so. I am drawn also to the rather quirky cabinet designs of Perdio transistor radios – I have twenty or so models. I have to admit I am rather attracted to some of their more tasteless designs – there seems to be no pattern or style followed from year to year; no corporate image to say "that's a Perdio set", save the logo on the front, and in many cases their use of gaudy plastics can only be described as ... different.

Now with the Perdio range of transistorised television receivers. I have only ever seen reference to two models: the Portarama Mk. I (photo 1) and the plastic cased Portarama Two – the usual Perdio television set dragged out and featured in several books including *Historic Televisions & Video Recorders* (p.43) and *The Set Makers* (p.348). So I was naturally keen to find out what the PT066 coming up for sale was all about, as I had not heard of this one before. A friend living locally to the auction found out that it was a dual-standard model and bidding on my behalf, obtained it for just £5. That price included the stout grocery carton which performed the vital function of containing all the bits (photo 2). I must admit that when I eventually unwrapped it, I had a shock for it did look a bit of a mess and I was convinced that there must be vital parts missing. However, when I laid it all out on the table, everything was there, even the 'bow-tie' aerial, and the chap who had dismantled it, bless him, had even drawn out a plan with assembly instructions and I was able to fit it all back together again (photo 3).

Referring back to *The Set Makers*, the authors imply that a dual-standard model was not able to be brought out because not enough profits were accrued from the Portarama Two to finance it (p.350). This, of course, was evidently wrong and a little research revealed an advert for the PT066 in the 1965 supplies catalogue of Brown Brothers, the television and radio wholesalers. The entry in fact lists two versions of the PT066, a 405/625 dual standard model priced at £87.3s.0d (£87.15p) and a 405-only model priced at £72.9s.0d (£72.45p). There is even a Trader Sheet devoted to the set (see below). So the range of Perdio television sets seems to be growing. These are the ones known about so far. If there are any more, or you have further information on any of the models listed (particularly the Mk. I), do write in.

I know at least two readers have dual-standard Perdios, so please write in if yours is different to Jonathan's. [Editor]

PORTRAMA FACT FILE

Portarama (I) 1961

Fabric-covered case
Twin telescopic aerials
Two controls on top, tuning on side.

Portarama (II) 1962 (Aug.)
(Trader Sheet 1652/T258)
(ERT Chart 1417)

Grey/blue plastic case
Single telescopic aerial
Five controls on top, tuning on side
Three push-buttons on front

Portarama (III) 1965
Model PT066 - 2 versions
(Trader Sheet 1853/T345)

Dark grey leathercloth covered case
Blue/white plastic front
Dual and single-standard versions.

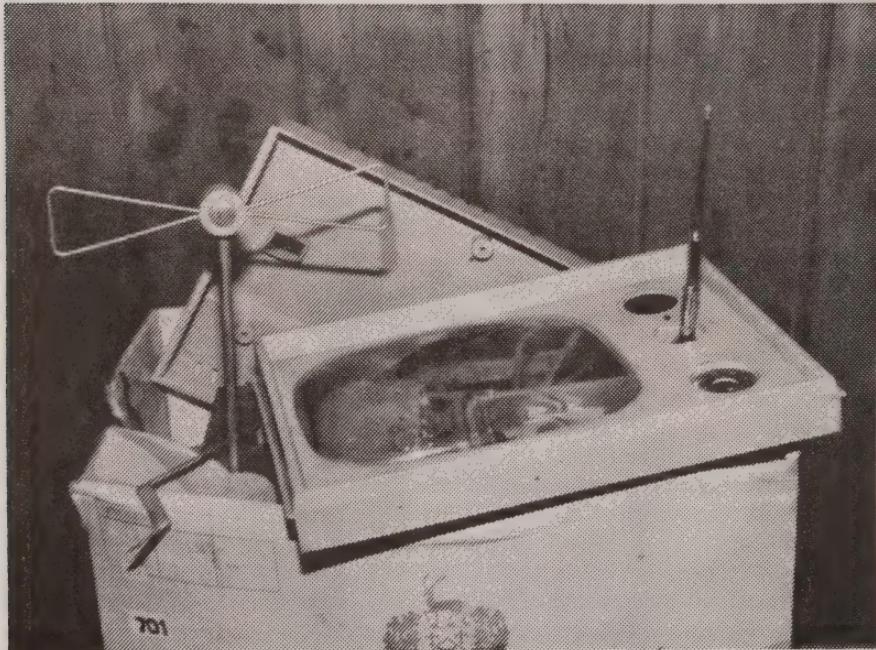


Fig. 2: A box of bits!

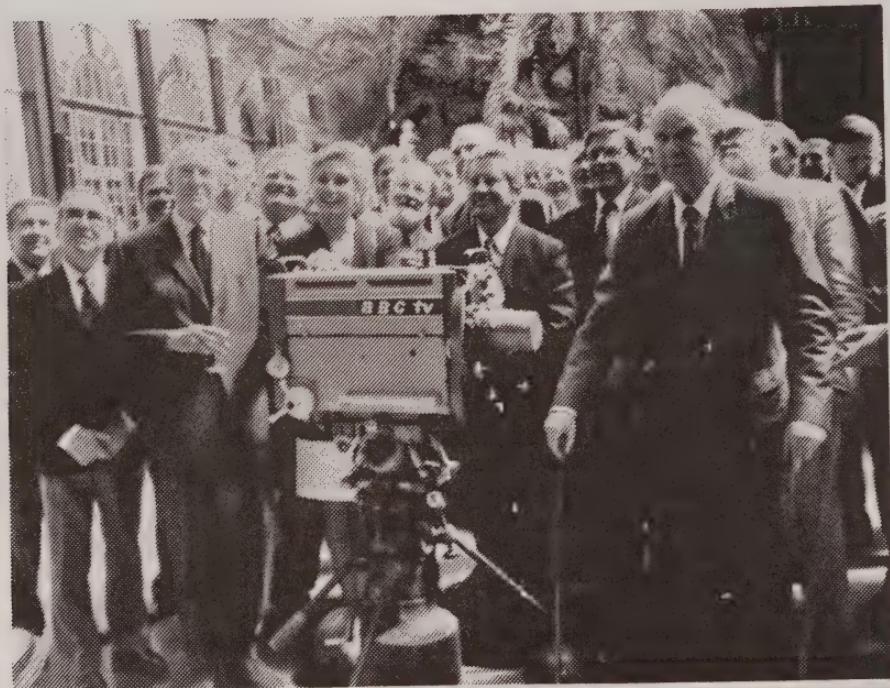


Fig. 3. All together again!

Here is the news and it's 40 years old.

Celebrating the fact in the Palm Court at Alexandra Palace on 18th July 1994 were many familiar newsreader faces: Angela Rippon, Robert Dougall, Richard Baker and others. On a technical note, the EMI 203 camera was wheeled in from Studio A (it's part of an embryonic museum) to add 'colour' to the group photograph.

This camera (discovered in a back room at AP) and pedestal have both been refurbished and re-badged by 405 Aliver Dicky Howett, who also took the photograph.



And finally...

FROM FORTEAN TIMES, issue 76

A TV licence dodger in the West Midlands told investigators that he dare not turn off because it would drive his pet monkey crazy. They insisted he turn the set off; the monkey then leapt on them and tore out some of their hair before they could get out of the door.

[First printed in the *Daily Mirror*, 2nd June 1994.]

FOR SALE:

RGD model 610 15" television, commercial valve data books/lists from 1936-1966. Radio, TV, VCR, juke box, Prestel and hi-fi service manuals 1940s/50s/60s. Hunts resistance and capacity bridge in working order, model CRB3. Loads of boxed new valves, including early TV types like 142BT, 27SV, PC97. Hundreds of unboxed valves from 4-pin Dario diodes and Mullard red side-contact to germanium transistors. Send SAE for list or ring for details. Peter Gledhill (NS), Ashfield Lodge, Main Street, Thorner, Leeds, LS14 3DX (0532-892212).

Two 15" Mazda CRTs, one is type CRM153, other is same or similar. Two Mullard CRTs 9" MW22-14, 12" MW31-16. All second-hand but believed OK, £5 each. Halo light, mask and transformer for Ferguson TV. Can deliver within 20-mile radius of Luton. Mike Lewis (NS), 01582-580367.

Bush TV24 (more attractive wood case version of TV22, uses B9 valves). Good condition, just a few scratches to cabinet, bakelite parts are fine, no knobs missing, back is OK but lacks mains lead. Untested but believed OK. Offers invited. Duncan Macintosh (NS), Solihull 0121-705 8112.

Cossor 912 single-channel console TV, some rot in lower cabinet but innards look fine. Offers around £25. Laurence Rudolf, 0181-446 4983.

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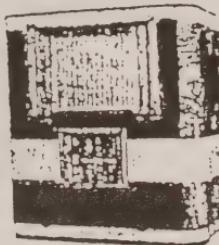
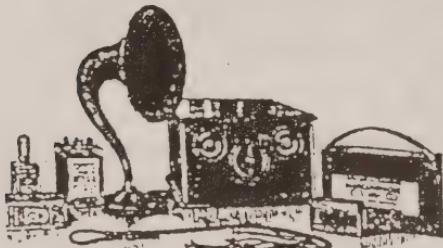
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The Editor, Chas.E.Miller, has been engaged professionally in radio work since 1948 and in technical journalism since the early 1970's. His book *A Practical Handbook of Valve Radio Repair* is the definitive work on the subject. The various writers who contribute are also well qualified in their fields and provide a valuable store of information for the readers. The Radiophile also offers its subscribers a service that is unmatched elsewhere: its large library of service sheets and manuals covers a vast range of models and these are available as photo-copies at very reasonable prices - typically half or less those charged by specialist firms. The book department has on offer hundreds of volumes dealing with vintage radio and allied subjects. In addition readers may place small advertisements free of charge. The Friends of The Radiophile, an informal association, operates "get-togethers" every six months at which readers meet to buy, sell or exchange equipment - and chat - in a friendly, relaxed atmosphere markedly different from other such functions. Full details of forthcoming events are given in the magazine.

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5/94



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Pre-war television, Marconi mirror-lid type 702, circa 1936. Good condition. Swap for black Ekco AD65 radio or £850. Phone 01442-832659.

BBC series A sound mixing desk (uses valve technology), also a 5ft rack of 24v accumulators which could be useful for a telephone exchange. Geoff Fairbairn, 01892-541762.

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I require a 0.001uF EHT condenser (bakelite, aluminium case, approx. 7/8" OD, 2" long, brass EHT cap) to repair my Ekco TMB 272 television. I'd like to make contact with other 272 owners for a talk/exchange of information. Mark Squance, 1 Chudleigh Road, Lipson Vale, Plymouth, PL4 7HU (01752-252352).

I am a member of ORCA, the Old-Time Radio Show Collectors Association, and I am keen on obtaining tapes of vintage shows on both radio and TV. Graeme Stevenson, editor of the ORCA magazine, recently told me that your readers may have collections of old TV shows on tape. I would be interested in finding out more about them. He also told me that you are the editor of the magazine *405 Alive*, and I seem to remember looking at a copy of it some time ago, but I cannot remember anything about it!

Among the TV series I would love to see again are:

U.K. Comedies	U.S. Comedies
A Fine Romance (LWT 1981-4)	I Married Joan (50s)
Please Sir (LWT 1968-71)	Burns & Allen Show (50s)
Yes Minister (BBC 1980-84)	Benson (circa 1982)
Billy Liar (LWT 1973-4)	Doris Day Show (circa 1969)
Hitch-Hiker's Guide to the Galaxy (BBC 1981)	

Drama

Mapp & Lucia (Ch4 1983); Rivals of Sherlock Holmes (Thames 1971-3); Thorndyke (BBC 1963-4); Raffles (I can't remember the channel or the date!); Forever Green (LWT 1991-2)

As you know, a lot of old series are available on video or shown on satellite TV, but none of the above! [Actually, Yes Minister and Hitch-Hiker's Guide are for sale on BBC Video.]

EDWARD COLE, 63 Morshead Mansions, Morshead Road, London W5 1LF (0171-286

0388). [Readers may remember Edward was a presenter on Radio 390 and a continuity announcer on HTV.]

WANTED:

Pye D16T in console form, also glass dial for Marconiphone 10" radio/television VRC52A. Please ring Peter Davis on 0181-508 3583.

Pocket and microportable TVs, especially if made by Sony, Sinclair, Toshiba, NEC, Sanyo, Candle, etc. Non-workers preferred. Enrico Tedeschi, 54 Easthill Drive, Portslade, Brighton, BN41 2FD. Tel/fax 01273-410749.

Sales and service literature for Murphy TPG11 pattern generator. Mike Izycky, 14 Cedar Close, Market Deeping, PE6 8BD, phone 01778-344506.

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FAQs are frequently asked questions, so we are keeping two files of FAQs and their answers ready for printing out on request for readers. These files will be updated as new information comes in. These two files are already quite lengthy and contain material already published, so it would not be fair on established subscribers to reprint them in the magazine. FAQ file 1 runs to 24 pages and covers general points about old TV and how to get old television sets working again. FAQ file 2 is a reprint on all the articles on test card music and ITV station ident themes; it covers 11 pages. FAQ file 1 costs £3.00 and file 2 costs £2.00 (both post paid). These prices cover just the cost of copying and postage plus the horrendous cost of banking your cheque (68 pence!). FAQ file 3 covers suppliers of hard-to-find components and service data; for this one send one first class stamp and a SAE.

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You may wish to contact the following allied interest groups and publications (please send SAE with all enquiries).

BRITISH VINTAGE WIRELESS SOCIETY: Gerald Wells, Vintage Wireless Museum, 23 Rosendale Road, London, SE21 8DS.

VINTAGE RADIO CIRCLE: Geoff Williams, 4 Sunnyside Park, St Ives, Ringwood, Hants., BH24 2NW.

BRITISH AMATEUR TELEVISION CLUB: Dave Lawton G0ANO, Grenelhurst, Pinewood Road, High Wycombe, Bucks., HP12 4DD.

NARROW BANDWIDTH TV ASSOCIATION: Doug Pitt, 1 Burnwood Drive, Wollaton, Nottingham, NG8 2DJ.

TEST CARD CIRCLE (TV trade test transmissions and test card music): Stuart Montgomery, 2 Henderson Row, Edinburgh, EH3 5DS.

BBC TEST CARD CLUB: Keith Hamer, 7 Epping Close, Derby, DE3 4HR.

SAVERS OF TELEVISION AND RADIO SHOWS (S.T.A.R.S.), 96 Meadvale Road, Ealing, London, W5 1NR.

IRISH VINTAGE RADIO & SOUND SOCIETY: Henry Moore, 9 Auburn Close, Killiney, Co. Dublin.

RADIO BYGONES (vintage radio technology): Geoff Arnold, 9 Wetherby Close, Broadstone, Dorset, BH18 8JB.

THE RADIOPHILE (vintage radio): Chas. E. Miller, "Larkhill", Newport Road, Woodseaves, Stafford, ST20 0NP.

TELERADIO NEWS (current radio and TV transmitter news, long-distance reception): Keith Hamer, 7 Epping Close, Derby, DE3 4HR.

TUNE INTO YESTERDAY (Old-Time Radio Show Collectors Association): Membership secretary: Roger Bickerton, 3 Park Edge, Harrogate, HG2 8JU.

VINTAGE LIGHT MUSIC SOCIETY: Stuart Upton, 4 Harvest Bank Road, West Wickham, Kent, BR4 9DJ.

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PROJECTED PICTURE TRUST (cinema history): Harold Brown, 2 Eleanor Gardens, Aylesbury, Bucks..

VINTAGE FILM CIRCLE: Alex Woolliams, 11 Norton Road, Knowle, Bristol, BS4 2EZ.

THE BACK PAGE

405 Alive (ISSN 0969-8884) is an independent, not-for-profit magazine devoted to the study and preservation of old television technology and programming. It has no connection with, and is not subsidised by, any other organisation. Publication is at approximately three month intervals, theoretically in January, April, July and October.

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